

Draft Tanzania Standard

Dried sardine – Specification

Draft Standard for Comments Only

Dried sardine - Specification

0. Foreword

The demand for processing and consumption of dried sardine for human consumption is increasing in the country thus, there is a need to ensure the safety and quality of the product produced and/or marketed.

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 specifies requirements, methods of sampling and test for dried sardine other than silver cyprinid (*Rastrineobola argentea*) 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 118 - Microbiology of food and animal feeding stuffs – Horizontal method for enumeration of micro – organisms – 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 feeding stuffs – Horizontal method for the detection of *Salmonella* spp

TZS 123 Microbiological - examination for *clostridium perfringens*

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

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

TZS 538 Packaging and labelling of foods

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 789- Portable water – Specification

TZS 1813 (EAS 833:2016) - Processing and handling of dried fish and fish products –Code of practice

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

TZS 2230 Lead determination in fish and fishery product

AOAC 2015.01, Heavy metals in food

Codex Stan 192- Codex General Standard for food additives

3 Terms and definitions

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

3.1 dried sardine

whole product presented as a dried fresh water and marine sardine which has not been gutted, beheaded or split and subsequently washed and/or pre- cooked and dried

3.2

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 Raw material

4.1.1.1 Dried sardine shall be prepared from fresh, sound sardines which is of an acceptable quality and fit for human consumption.

4.1.1.2 Water used during sardine processing shall be potable complying with TZS 789.

4.1.1.3 After washing and/or pre-cooking the sardine shall be dried either in the sun or in artificial dryers until a satisfactory product is obtained.

4.1.1.4 The sardine, while drying shall be free of dirt, sand, birds, vermin, insects and any other foreign matters.

4.1.2 Finished product

Dried sardine shall:

- a) have the characteristic skin colour and dried fish odour;
- b) be free from any indication of spoilage such as mouldiness, colour change;

- c) be free from artificial colouring matter, flavours and firming agents; and
- d) be free from foreign matter, pests and chemical/compound that compromise product safety.

4.2 Specific requirements

4.2.1 Dried sardine shall comply with the specific requirements given in Table 1.

Table 1 – Specific requirements for dried sardine

S/N	Parameter	Requirement	Test method
i.	Moisture, %, max.	12	Annex A
ii.	Acid insoluble ash, % max.	0.5	TZS 2044

4.2.2 Dried sardine shall be presented not less than 90 % whole.

5 Contaminants

5.1 Heavy metals

Dried sardine shall comply with the heavy metal limits given in Table 2.

Table 2 — Heavy metal limits for dried sardine

S/No.	Heavy metal contaminants	Maximum limit, mg/kg	Test method
i.	Lead	0.3	TZS 2230
ii.	Cadmium	0.3	AOAC 2015.01
iii.	Mercury	0.5	

5.2 Pesticide residues

Dried sardine shall comply with those maximum pesticides residue limits established by the Codex Alimentarius Commission.

6 Hygiene

6.1 The product shall be prepared and handled in accordance with TZS 109 and TZS 1813 and shall comply with microbiological limits given in Table 3.

Table 3 — Microbiological limits for dried sardine

S/N	Type of microorganism	Maximum limit	Test method
-----	-----------------------	---------------	-------------

i.	<i>Salmonella</i> , in 25 g	Absent	TZS 122
ii.	<i>Escherichia coli</i> , MPN/g	Absent	TZS 731
iii.	<i>Staphylococcus aureus</i> , per g	2×10^3	TZS 125
iv.	Total viable count, CFU/g	10^6	TZS 118
v.	<i>Vibrio spp.</i> , per g.	Absent	TZS 119
vi.	Yeast and moulds, CFU/g	10^3	TZS 131
vii.	<i>Clostridium perfringens</i> , per g	Absent	TZS 123

7 Sampling and test

7.1 Sampling

Sampling of dried sardine shall be done according to the Codex general guideline on sampling (CAC/GL 50-2004).

7.2 Test

Dried sardine shall be done according to test methods prescribed in Table 1,2 and 3 of this standard.

8 Food additives

Food additives if used shall comply with the levels stipulated under the Codex general standard on food additives CODEX STAN 192.

9 Weights and Measures

Dried sardine shall be packaged in accordance with Weights and Measures requirements of the destination country.

10 Packing, marking and labeling

10.1 Packing

Dried sardine shall be packed in suitable food grade materials.

10.2 Marking and labeling

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

- a) Name of the product shall be (Dried sardine).
- b) Net content
- c) Name, physical and postal address of the manufacturer or packer
- d) Country of origin

- e) Date of manufacture and expiry
- f) Brand name of the product
- g) Storage condition
- h) Batch or code number
- i) Instruction for use
- j) The language on the label shall be Swahili and/or English. Another language may be used depending on the designated market.

10.3 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 license from TBS. Particulars of conditions under which the licenses are granted, may be obtained from TBS.

Draft Standard for Comments Only

Annex A (normative)

Determination of moisture content

A.1 Principle

The sample is dried to constant weight in an oven.

A.2 Apparatus

A.2.1 Moisture dishes, made of nickel, stainless steel, aluminium or porcelain, with well-fitting lids

A.2.2 Oven

A.2.3 Desiccator

A.3 Procedure

Weigh accurately about 10 g of the sample in a suitable moisture dish, previously dried in an oven and weighed. Place the dish in an oven maintained at $105\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ for five hours. Cool the dish in a desiccator and weigh with the lid on. Repeat the process of heating, cooling and weighing at half-hour intervals until the loss in mass between two successive weightings is less than 1 mL. Record the lowest mass obtained. Preserve the dish containing this dried material in a desiccator for the determination of total ash (see B.2.3).

A.4 Calculation

The moisture content shall be expressed as follows:

$$\text{Moisture, \% by mass} = \frac{m_1 - m_2}{m_1 - m} \times 100$$

where

m_1 is the mass, in grams, of the moisture dish with material before drying;

m_2 is the mass, in grams, of the moisture dish with the material after drying; and

m is the mass, in grams, of the empty moisture dish.