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**DRAFT MALAWI STANDARD
(SADC HARMONIZED)**

**Sausages – Specification
Part 3: Fish sausages**

Note: This is a draft standard and it shall neither be used nor regarded as a Malawi standard

Sausages – Specification

Part 3: Fish sausages

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FOREWORD

This draft standard is a Southern African Development Community (SADC) Harmonized Text covering the requirements and methods of tests for fish sausages.

The harmonization of standards and technical regulations in the SADC region is an obligation under the SADC protocol on Trade which was established under the SADC Treaty to provide for elimination of tariffs and non-tariff barriers to trade.

This standard is identical to SADC HT 86, *Fish sausages – Specification*.

Acknowledgement is made for the use of the above standard.

TECHNICAL COMMITTEE

This draft standard was prepared by the Technical Committee *MBS/TC 39, Fish and fishery products*, and the following companies, organizations and institutions were represented:

Malawi Bureau of Standards.

MALDECO Fisheries

Malawi College of Fisheries;

Ministry of Agriculture, Irrigation and Water Development – Department of Fisheries;

Lake Harvest; and

Lilongwe University for Agriculture and Natural Resources.

NOTICE

This standard shall be reviewed every five years, or earlier when it is necessary, in order to keep abreast of progress. Comments are welcome and shall be considered when the standard is being reviewed.

DRAFT MALAWI STANDARD

Sausages – Specification

Part 3: Fish sausages

1 SCOPE

This draft standard specifies requirements and methods of sampling and test for fish sausages intended for human consumption or as an ingredient in other foods.

2 NORMATIVE REFERENCES

The following standard contains provisions, which through reference in this text, constitute provisions of this draft standard. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of that standard, parties to agreements based on this draft standard are encouraged to take steps to ensure the use of the most recent edition of the standard indicated below. Information on current valid national and international standards can be obtained from the Malawi Bureau of Standards.

MS 19: *Labelling of prepacked foods – General standard;*

MS 21: *Food and food processing units – Code of hygienic conditions;*

MS 214: *Potable water – Specification;*

MS 237: *Food additives – General standard;*

MS 302: *General standard for contaminants and toxins in food and feed;*

MS 790: *Code of hygienic practice for fish and fishery products;*

CAC/GL 23: *General requirements for nutrition and health claims;*

ISO 4832: *Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of coliforms – Colony-count technique;*

ISO 4833: *Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of microorganisms – Colony-count technique at 30 degrees;*

ISO 6579: *Microbiology of food and animal feeding stuffs – Horizontal method for the detection of Salmonella spp.;*

ISO 7251: *Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of presumptive Escherichia coli – Most probable number technique;*

3 DEFINITIONS

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

3.1

meat

parts of fish that are intended for and have been judged as safe and suitable for human consumption

3.2

fresh meat

meat that has not been subjected to any preservation other than chilling, freezing, vacuum-wrapping and wrapping in a controlled atmosphere

3.3

green weight

the weight of the raw article before addition of other substances or before drying

3.4

minced fish meat

boneless fish meat that has been comminuted into fragments/particles

3.5

fish meat preparations

fresh fish meat, including minced fish meat which has had foodstuffs, seasonings or additives added to it

3.6

casing

natural or artificial materials used to protect and/or hold fish meat

3.7

sausage fish meat

product of ground fish or meat from suitable animal or a mixture of these, blended with or without spices and other seasonings

3.8

sausage

product obtained by stuffing fish meat in casings and which may be fresh, fermented, cooked and/or smoked

3.9

fish meat content

total amount of fish meat and meat fat in the sausage or sausage meat expressed as a percentage mass or per unit mass of product

3.10

fresh/raw fish sausages

fish sausages made from meats that have not been previously cured and require chilling or freezing and thorough cooking before consumption

3.11

cooked fish sausages

fish sausages made with fresh meats and then fully cooked, intended to be either eaten immediately after cooking or refrigerated

3.12

smoked fish sausages

fish sausages that are smoked and require to be refrigerated and cooked thoroughly before consumption

3.13

dry fish sausages

fresh fish sausages that are dried a long shelf life

3.14

fermented fish sausages

fish sausages that have undergone microbiological fermentation and curing

3.15

food grade container

materials that are free from substances that are hazardous to human health and may be permitted to come in contact with food

4. ESSENTIAL COMPOSITION AND QUALITY FACTORS

4.1 Raw material

4.1.1 Fish meat

All fish meat shall have been obtained from fish that meets the requirements for fresh or frozen fish. Scraps or waste that is inedible or unfit for human consumption shall not be used.

4.1.2 Water

Water used in the preparation of fish sausages shall conform to MS 214.

4.2 Optional ingredients

The following optional ingredients may be used in the preparation or manufacture of fish sausages provided they are fit for human consumption:

4.2.1 Curing ingredients

Ingredients may be used in the curing of meat for fish sausage manufacture in accordance with MS 237.

4.2.2 Spices and seasonings

Spices and seasonings used for fish sausage manufacture shall be fit for human consumption and conform to relevant Malawi or international standards.

4.2.3 Other ingredients

4.2.3.1 Edible starch;

4.2.3.2 Cereals and cereal products;

4.2.3.3 Milk and milk products;

4.2.3.4 Sucrose, invert sugar, dextrose (glucose), lactose, maltose, glucose syrup (including corn syrup);

4.2.3.5 Water soluble, aromatic hydrolyzed protein;

4.2.3.6 Vegetable protein products; and

4.2.3.7 Eggs and egg products and other products of plant and animal origin.

4.3 Final product

4.3.1 Fresh sausages

4.3.1.1 Fresh fish sausages shall be prepared from one or more kinds of fresh or frozen meat flesh.

4.3.1.2 Fresh fish sausages shall not contain edible offals and other products of animal origin such as collagen, gelatine and rendered animal fats.

4.3.1.3 Fresh fish sausages shall conform to the composition requirements indicated in Table 1.

Table 1: Composition requirements for fresh fish sausages

| 1 | 2 |
|--------------------|--------------|
| Constituent | Requirements |
| Fish meat, %, min | 65 |
| Fat, %, max. | 30 |
| Water/ice, %, max. | 3 |

4.3.2 Smoked fish sausages

4.3.2.1 Smoked fish sausages shall contain no less than 65 % fish meat and not more than 30 % fat.

4.3.2.2 To facilitate chopping or mixing, water, or ice may be used in an amount not to exceed 3 % of the total ingredients used.

4.3.2.3 Smoked fish sausages shall be smoked with only hard wood or other non-resinous materials.

4.3.3 Cooked fish sausages

4.3.3.1 Cooked sausages shall be prepared from one or more kinds of raw or cooked fish meat, seasoned and cured using one or more of the curing agents. They may or may not be smoked.

4.3.3.2 Such products may contain raw or cooked edible offals and other products of plant or animal origin individually or in combination, not in excess of 15 % of the total ingredients.

4.3.3.3 The finished products shall not contain more than 30 % fat.

4.3.3.4 Water or ice, or both, may be used to facilitate chopping or mixing or to dissolve the curing ingredients but the fish sausage shall contain no more than 10 % of added water.

4.3.4 Dry fish sausages

4.3.4.1 Dry fish sausages shall not be more than 60 % of the green weight.

4.3.4.2 Semi dry fish sausages shall not be more than 70 % of the green weight.

4.4 The product shall comply with the microbiological limits given in Table 2.

Table 2 – Microbiological limits for fish sausages

| 1 S/No. | 2 Type of microorganism | 3 Maximum limit | | 4 Method of test |
|------------|---|--------------------|-----------------|----------------------|
| | | Fresh sausages | Other types | |
| (i) | Total plate count (TPC) cfu, per g, max | 10 ⁶ | 10 ³ | ISO 4833 |
| (ii) | <i>Escherichia coli</i> , cfu, per g, max | 10 | Absent | ISO 7251 |
| (iii) | <i>Salmonella</i> spp. per 25 g, max | Absent | Absent | ISO 6579 |
| (iv) | <i>Vibrio</i> spp. cfu, per g, max | Absent | Absent | ISO 21872 |
| (v) | <i>Staphylococcus aureus</i> , cfu, per g, max | 10 ³ | 10 ² | ISO 6888 |
| (vi) | <i>Listeria monocytogenes</i> , cfu, per g, max | Absent | Absent | ISO 11290 Part 1 & 2 |

5 CONTAMINANTS

5.1 Heavy metals

Fish sausages shall conform to those maximum levels for heavy metals and other contaminant as specified in MS 302.

5.2 Pesticides and veterinary drug residues

Fish sausages shall conform to the maximum residual limits for pesticide and veterinary drug residues established by the Codex Alimentarius Commission for similar commodities.

6 HYGIENE

The product covered by the provisions of this draft standard shall be prepared and handled in accordance with MS 21 and MS 790.

7 PACKAGING AND LABELLING

7.1 Packaging

Fish sausages shall be packaged in food grade containers.

7.2 Labelling

The containers shall be labelled in accordance with MS 19 and the following specific labelling requirements shall apply and shall be legibly and indelibly marked:

7.2.1 Name of the product shall be " Fish sausage";

7.2.1.1 The name shall be accompanied by a word describing the kind of meat used, or where more than one kind of meat has been used, by the names in descending order of proportion of the ingoing meat, e.g. "fish sausages", or fish and beef sausages".

7.2.1.2 A declaration of the presence of binders and of edible offal and a declaration indicating the species of fish from which the meat or a combination of these meats is derived, shall be given in connection with the name of the product.

7.2.2 List of ingredients;

7.2.3 Storage and transportation conditions;

7.2.4 Name and physical address of processor;

7.2.5 Net weight in metric;

7.2.6 Date of production;

7.2.7 Batch or code number;

7.2.8 Expiry date; and

7.2.9 Country of origin

7.3 Labelling of non-retail containers

7.3.1 Information on the above provisions 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.

7.3.2 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 SAMPLING OF FISH SAUSAGES

8.1 Scale of sampling

8.1.1 Lot

All containers in a consignment belonging to the same batch of manufacture shall constitute a lot. If the consignment is declared to consist of different batches of manufacture, containers of the same batch shall be grouped together and each group so formed shall constitute a separate lot.

Sample shall be tested from each lot for ascertaining conformity to the requirements of this draft standard.

8.1.2 Sample size

The number of containers to be selected from a lot for testing for microbiological and other requirements shall depend on the size of the lot and shall be in accordance with Table 3.

Table 3: Number of containers to be selected for sampling

| 1 | 2 | 3 |
|---------------------------------|--------------------------------------|-------------|
| Number of containers in the lot | No. of containers to be selected (n) | |
| | Microbiological | Other tests |
| up to 1300 | 12 | 18 |
| 1301 to 3200 | 18 | 24 |
| 3201 and above | 24 | 30 |

8.1.3 Sampling method

The containers to be selected for testing shall be chosen at random from the lot by the following procedure. Starting from any container, count them as 1,2,3..... up to r. Every rth containers thus counted shall be withdrawn, r being the integral part of N/n , where N is the total number of containers in the lot and n is the total number of container to be chosen (Table 3).

8.2 Test samples and reference samples

8.2.1 Samples for microbiological tests

The sample containers selected for microbiological tests (see col. 2 of Table 3) shall be divided at random into three equal sets and labelled with all particulars of sampling. One of these sets of sample containers shall be for the buyer; another for the supplier and the third set is the reference.

8.2.2 Samples for other tests

The sample containers selected for other tests (see col. 3 of Table 3) shall be divided at random into three equal sets and labelled with all the particulars of the sample. One of these sets of sample containers shall be for the buyer, another for the supplier and third is the reference.

8.2.3 Reference samples

Referee samples shall consist of set of sample containers for microbiological tests (see 8.2.1) and a set of sample containers for other tests (see 8.2.2) and shall bear the seals of the buyer and supplier or as agreed to between the two.

9 METHODS OF ANALYSIS

Test of fish sausages shall be done in accordance with the standards stated in the relevant clauses.

10 CRITERIA FOR CONFORMITY

A lot shall be declared as conforming to this draft standard if samples inspected or analysed for quality requirements conform to the provisions of this standard.

THE MALAWI BUREAU OF STANDARDS

The Malawi Bureau of Standards is the standardizing body in Malawi under the aegis of the Ministry of Industry and Trade. Set up in 1972 by the Malawi Bureau of Standards Act (Cap: 51:02), the Bureau is a parastatal body whose activities aim at formulating and promoting the general adoption of standards relating to structures, commodities, materials, practices, operations and from time to time revise, alter and amend the same to incorporate advanced technology.

CERTIFICATION MARK SCHEME

To bring the advantages of standardization within the reach of the common consumer, the Bureau operates a Certification Mark Scheme. Under this scheme, manufacturers who produce goods that conform to national standards are granted permits to use the Bureau's "Mark of Quality" depicted below on their products. This Mark gives confidence to the consumer of the commodity's reliability



