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DRAFT EAST AFRICAN STANDARD

Crackers from marine and freshwater fish, crustacean and molluscan shellfish— Specification

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

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

DEAS 870 was prepared by the Technical Committee EASC/TC 003, *Fish and fishery products*.

Crackers from marine and freshwater fish, crustacean and molluscan shellfish— Specification

1 Scope

This draft East African Standard specifies requirements and methods of sampling and test for crackers prepared from marine and freshwater fish, crustacean and molluscan shellfish.

It does not include ready-to-eat fried as well as artificially flavoured fish, crustacean and molluscan shellfish crackers

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.

AOAC 952.13, *Arsenic in food — Silver diethyldibocarbamate method*

AOAC 972.23, *Lead in fish — Atomic absorption spectrophotometric method*

AOAC 973.34, *Cadmium in food — Atomic absorption spectrophotometric method*

AOAC 977.13, *Histamine in sea food — Fluorometric method*

AOAC 983.20, *Mercury (methyl) in fish and shellfish — Gas chromatographic method*

CAC/GL 50-2004 *General guideline on sampling*

CAC/RCP 52-2003, *Code of practice for fish and fishery products*

EAS 12, *Drinking (potable water) — Specification*

EAS 38, *Labelling of pre-packaged foods — Requirements*

EAS 39, *Hygiene in the food and drink manufacturing industry — Code of practice*

ISO 4833-1, *Microbiology of food chain — Horizontal method for the enumeration of microorganisms — Part 1: Colony-count at 30 degrees C by the pour plate technique*

ISO 6579, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.*

ISO 6888 (all parts), *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species)*

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

ISO 21527-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 1: Colony count technique in products with water activity greater than 0,95*

ISO/TS 21872 (all parts), *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of potentially enteropathogenic Vibrio spp.*

3 Terms and definitions

For the purposes of this standard, the following terms and definitions shall apply.

3.1

cracker

Food product made from fresh fish or frozen minced flesh of either marine or freshwater fish, crustacean, molluscan shellfish and /or the mixture thereof.

3.2

fish

poikilothermic or cold blooded aquatic vertebrates having gills, fins and typically an elongated body

3.3

crustacean

arthropod with a hard outer shell and jointed limbs that usually lives in aquatic environment

3.4

molluscan shellfish

molluscan having soft unsegmented body with a calcareous shell secreted by a fold of skin

4 Requirements

4.1 General requirements

4.1.1 Raw material

The product shall be prepared from;

- a) Fish, crustacean and molluscan shellfish with characteristic fresh appearance, colour and odour;
- b) Fresh, chilled or frozen fish, crustacean and molluscan shellfish or frozen minced flesh fish, crustacean and molluscan shellfish
- c) potable water shall comply with EAS 12

4.1.2 Other ingredients

Flour other than soy and mushroom flour conforming to relevant East Africa standard.

4.1.3 Optional ingredients

The product may contain sugar, salt, spices, conforming to relevant East Africa standard.

4.1.4 Finished product

The product shall have characteristic colour and texture and free from spoilage and foreign matter.

The product shall be graded as per the requirements stipulated in Table 1.

4.2 Specific requirements

4.2.1 When tested in accordance with AOAC 977.13, the level of histamine in the product shall not exceed 100 ppm.

4.2.2 The product shall comply with the requirements specified in Table 1.

Table 1 — Requirements for crackers from marine and freshwater fish, crustacean and molluscan shellfish

S/NO	Parameter	Grade	Fish	Crustacean and Molluscan Shellfish	Test method
1	Crude protein (N x 6.25), %, w/w min.	I II III	12 8 5	8 5 2	
2	Moisture content, % w/w		8 to 14	8 to 14	ANNEX A

5 Food additives

Only the use of the following additives is permitted.

Additive	Maximum level in the final product
<u>Sequestrants</u>	
452 Polyphosphates	5 mg/kg expressed as P ₂ O ₅ , singly or in combination (includes natural phosphate)
<u>Flavour enhancers</u>	
621 Monosodium glutamate	GMP

6 Hygiene

The product covered by the provisions of this standard shall be prepared and handled in accordance with EAS 39 and CAC/RCP 52 and shall comply with microbiological limits given in Table 2.

Table 2 — Microbiological limits for crackers from marine and freshwater fish, crustacean and molluscan shellfish.

S/No	Micro-organisms	Maximum limits	Test method
i)	<i>Salmonella</i> per 25 g	Absent	ISO 6579
ii)	<i>Escherichia coli</i> , MPN/g	Absent	ISO 7251
iii)	<i>Staphylococcus aureus</i> , CFU/g	10 ²	ISO 6888
iv)	<i>Vibrio Spp.</i>	Absent	ISO/TS 21872
v)	Total viable count, CFU/g	10 ⁵	ISO 4833-1
vi)	Yeast and moulds, CFU/g	10 ²	ISO 21527-1

7 Contaminants

Heavy metals

Crackers from marine and freshwater fish, crustacean and molluscan shellfish shall comply with the heavy metal limits given in Table 3.

Table 3 — Heavy metal limits for crackers from marine and freshwater fish, crustacean and molluscan shellfish.

S/No	Heavy metal	Maximum limit, mg/kg	Test method
i)	Arsenic	0.1	AOAC 952.13
iii)	Lead	0.3	AOAC 972.23
iii)	Cadmium	0.3	AOAC 973.34
iv)	Methyl mercury	0.5	AOAC 983.20

8 Weights and measures

The weight of the product shall comply with Weights and Measures regulations of Partner States or equivalent legislation.

9 Packaging

The product shall be packed in food grade containers which is moisture proof and gas impermeable that will safeguard the hygienic, nutritional, technological and organoleptic qualities of the product. They shall not impart any toxic substance or off odour or flavour to the product.

10 Labelling

General

In addition to the requirements in EAS 38, the following specific labelling requirements shall apply and shall be legibly and indelibly marked:

- a) The name of the product shall be derived from the main raw material(s) used. And shall be named as "Fish Crackers" if the raw material is from fish, those from cracker from crustacean and molluscan shellfish shall depict the common name of the species, such as like "Prawn Crackers" or "Squid Crackers" crackers made by mixing if different species of fish, crustaceans or molluscan shellfish used then the product shall be named as "mixed cracker", indicating all the specie/common name used.
- b) name and physical address of processor;
- c) net weight in grams or kilograms;
- d) production date;
- e) batch number;
- f) expiry date;
- g) instruction for use; and
- h) country of origin.
- i) conditions of storage
- j) Net weight in g or kg

11 Sampling

Sampling shall be done in accordance with CAC/GL 50-2004.

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 $105\text{ °C} \pm 2\text{ °C}$ 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.