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FINAL DRAFT EAST AFRICAN STANDARD

Crackers from marine and freshwater fish, crustacean and molluscan shellfish

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.

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

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

1 Scope

This Final Draft East African Standard specifies requirements, 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 diethyldithiocarbamate 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 981.10, *Protein in raw and processed meats*

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

CAC/GL 50, *General guidelines on sampling*

CAC/RCP 52, *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 1442, *Meat and meat products — Determination of moisture content (Reference method)*

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) — Part 1: Technique using Baird-Parker agar medium*

ISO 16649-3, *Microbiology of the food chain — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 3: Detection and most probable number technique using 5-bromo-4-chloro-3-indolyl-β-D-glucuronide*

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
- 3.5 foreign matter**
any undesirable material which is not of fish origin such as sand, stones and metallic chips
- 3.6 food grade material**
packaging material, made of substances which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour or flavour to the product

4 Requirements

4.1 General requirements

4.1.1 The product shall be prepared from:

- a) fish, crustacean and molluscan shellfish with characteristic fresh appearance, colour and odour; and
- b) chilled or frozen fish, crustacean and molluscan shellfish or frozen minced fish, crustacean and molluscan shellfish.

4.1.2 Water used during processing shall comply with EAS 12.

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

4.1.4 The product may be graded based on the protein content as specified 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 mg/kg.

4.2.2 The product shall comply with the requirements given in Table 1 when tested in accordance with the methods specified therein.

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

S/No	Parameter	Grade	Marine and freshwater fish	Crustacean and molluscan shellfish	Test method
i	Crude protein (N x 6.25), %, w/w min.	I	12	8	AOAC 981.10
		II	8	5	
		III	5	2	
ii	Moisture content, %, w/w		8 - 14	8 - 14	ISO 1442

5 Food additives

Food additives used in the preparation of the crackers shall be in accordance with CODEX STAN 192.

6 Hygiene

The product 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-organism	Microbiological limit	Test method
i)	<i>Salmonella Spp.</i> per 25 g	Absent	ISO 6579
ii)	<i>Escherichia coli</i>	Absent	ISO 16649-3
iii)	Coagulase positive <i>Staphylococci</i> , CFU/g, max.	10 ²	ISO 6888
iv)	<i>Vibrio Spp.</i>	Absent	ISO/TS 21872
v)	Total viable count, CFU/g, max.	10 ⁵	ISO 4833-1
vi)	Yeast and moulds, CFU/g, max.	10 ²	ISO 21527-1

7 Contaminants

7.1 Heavy metals

The product 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
ii)	Lead	0.3	AOAC 972.23
iii)	Cadmium	0.3	AOAC 973.34
iv)	Methyl mercury	0.5	AOAC 983.20

7.2 Pesticide and veterinary drug residues

The product shall comply with the maximum residual limits for pesticides and veterinary drug residues established by the Codex Alimentarius Commission.

8 Weights and measures

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

9 Packaging

The product shall be packed in containers made from food grade materials which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product. The package shall not impart any toxic substance or undesirable odour or flavour to the product.

10 Labelling

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 crackers from crustacean and molluscan shellfish shall depict the common name of the species, such as "Prawn Crackers" or "Squid Crackers"; crackers made by mixing of 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;
- h) country of origin; and

- i) conditions of storage.

11 Sampling

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

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Bibliography

CODEX STAN 222-2001, *Standard for crackers for marine and freshwater fish, crustaceans and molluscan shellfish*

IS 4303-1:1975, *Code of hygienic conditions for fish industry — Part 1 Pre-processing stage*

IS 4303-1:1975, *Code of hygienic conditions for fish industry — Part 2 Canning stage*

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