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DRAFT EAST AFRICAN STANDARD

Fish protein concentrate — 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.

FDEAS 895 was prepared by Technical Committee EASC/TC 003, *Fish and fishery products*.

Fish protein concentrate — Specification

1 Scope

This Draft East African Standard specifies requirements, sampling and test methods for fish protein concentrate 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.

AOAC 925.09, *Solids (total) and loss on drying (moisture) in flour — Vacuum oven method*

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

AOAC 999.13, *Lysine, methionine and threonine in pure amino acids (feed grade) premixes — HPLC post-column derivatization*

AOAC 2015.01, *Heavy Metals in Food - Inductively Coupled Plasma–Mass Spectrometry*

CXG 50, *General guidelines on sampling*

CXC 52, *Code of practice for fish and fishery products*

EAS 38, *Labelling of pre-packaged foods — General requirements*

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

EAS 62-1, *Fish handling and processing — Code of practice — Part 1: Fresh fish*

EAS 803, *Nutrition labelling — Requirements*

EAS 804, *Claims on foods — Requirements*

EAS 805, *Use of nutritional and health claims — Requirement*

ISO 936, *Meat and meat products — Determination of total ash*

ISO 1736, *Dried milk and dried milk products — Determination of fat content — Gravimetric method (Reference method)*

ISO 3310-2, *Test sieves — Technical requirements and testing — Part 2: Test sieves of perforated metal plate*

ISO 4833 (all parts), *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms — Colony-count technique at 30 degrees C*

ISO 5985, *Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*

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

ISO 6888-1, *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 10304-1, *Water quality — Determination of dissolved anions by liquid chromatography of ions — Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite phosphate and sulfate*

ISO 15495, *Milk, milk products and infant formulae — Guidelines for the quantitative determination of melamine and cyanuric acid by LC-MS/MS*

ISO 20483, *Cereals and pulses — Determination of the nitrogen content and calculation of the crude protein content — Kjeldahl method*

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 16649-1, *Microbiology of the food chain — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli Part 1: Colony-count technique at 44 degrees C using membranes and 5-bromo-4-chloro-3-indolyl beta-D-glucuronide*

3 Terms and definitions

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

3.1

fish protein concentrate

any stable fish preparation in which the protein is more concentrated than in the original fish

3.2

food grade container

packaging made of material which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour, colour or flavour to the product

4 Requirements

4.1 General requirements

4.1.1 Raw materials

The fish used to produce protein concentrates shall be fit for human consumption and shall be handled in accordance with EAS 62-1. Fish protein concentrates may be produced using food grade solvents such as ethanol, iso-propanol, hexane and ethylene dichloride.

4.1.2 Finished products

Fish protein concentrate shall:

- a) be in the form of a fine free-flowing colourless powder that is easy to blend;
- b) not have more than a faint odour and taste when added to boiling water in a closed container;
- c) be free from dirt or other extraneous matter;
- d) be free from added colouring and flavouring agents; and
- e) not contain solvent residues exceeding the limits compatible with good manufacturing practices.

4.2 Specific requirements

The fish protein concentrate shall conform to the requirements given in Table 1 when tested in accordance with the methods prescribed therein.

Table 1 — Requirements for fish protein concentrate

S/N	Characteristic	Requirement	Test method
i	Moisture, % by mass, max.	8.0	AOAC 925.09
ii	Crude protein content (N×6.25), on dry basis, % by mass, min.	80.0	ISO 20483
iii	Fat content, on dry basis, % by mass, max.	0.75	ISO 1736
iv	Ash, on dry basis, % by mass, max.	18	ISO 936
v	Acid insoluble ash, on dry basis, % by mass, max.	0.5	ISO 5985
vi	Available lysine, g/100 g of protein, min.	6.5	AOAC 999.13
vii	Particle size, 150-micron sieve	0	ISO 3310-2

5 Hygiene

5.1 Fish protein concentrate shall be produced and handled in a hygienic manner in accordance with EAS 39 and CXC 52.

5.2 Fish protein concentrate shall conform to the microbiological limits given in Table 2 when tested in accordance with the methods prescribed therein.

Table 2 — Microbiological limits for fish protein concentrate

S/N	Characteristic	Requirement	Test method
i	Yeast and moulds, cfu/g	10 ³	ISO 21527-1
ii	Total viable count, cfu/g	10 ⁵	ISO 4833
iii	<i>Escherichia coli</i> , cfu/g	Absent	ISO 16649
iv	<i>Staphylococcus aureus</i> , per g,	10 ²	ISO 6888-1
v	<i>Salmonella</i> spp per 25 g	Absent	ISO 6579

6 Contaminants

6.1 Heavy metals

Fish protein concentrate shall conform to the heavy metal limits given in Table 3 when tested in accordance with the methods prescribed therein.

Table 3 — Heavy metal limits for fish protein concentrate

S/N	Parameter	Maximum limit, mg/kg	Test method
i	Lead	0.3	AOAC 972.23
ii	Mercury	0.5	AOAC 2015.01

6.2 Other contaminants

Fish protein concentrate shall not exceed limits of other contaminants specified in Table 4.

Table 4 — Other contaminants limits for fish protein concentrate

S/N	Contaminant	Maximum limit, mg/kg	Test method
i	Melamine	2.5	ISO 15495
ii	Fluoride	250	ISO 10304-1

8 Packaging

The fish protein concentrate shall be packaged in food grade containers.

9 Labelling

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

- a) name of the product as "Fish protein concentrate";
- b) name of the fish species used
- c) name and physical address of the processor;
- d) batch or lot number;
- e) net weight
- f) country of origin
- g) date of production;

- h) date of expiry;
- i) storage instructions; and
- j) instructions for use.

9.2 Nutritional labelling, nutrition and health claims may be made in accordance with EAS 803, EAS 804 and EAS 805.

10 Sampling

Sampling of fish protein concentrate shall be done in accordance with CXG 50.

Draft for Comments Only