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COMMITTEE DRAFT EAST AFRICAN STANDARD

Lipid food supplements — 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.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. 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 Principles and procedures for development of East African Standards.

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.

The committee responsible for this document is Technical Committee EASC/TC 018, Nutrition and foods for special dietary uses.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

This second edition (DEAS 798: 2022) cancels and replaces the first edition (EAS 798: 2013), which has been technically revised.

Lipid food supplements — Specification

1 Scope

1.1 This Draft East African Standard specifies the requirements, sampling and test methods for lipid food supplements used for complementing the normal diet with essential fatty acids.

1.2 This draft standard covers lipid food supplements primarily providing essential fatty acids and presented in forms such as capsules, paste or liquid. The product may be taken directly or added to another food with the primary objective of increasing the energy content of the food and provide essential fatty acids.

1.3 This draft standard does not cover lipid food supplements intended for special dietary uses or medical/therapeutic purposes.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 971.21, *Mercury in food — Flameless Atomic Absorption Spectrophotometric method*

AOAC 973.34, *Cadmium in food — Atomic Absorption Spectrophotometric method*

AOAC 996.06, *Fat (total, saturated, and unsaturated) in foods — Hydrolytic extraction — Gas chromatographic method*

CODEX STAN 192, *General standard for food additives*

EAS 38, *General standard for the labelling of pre-packaged foods*

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

EAS 803, *Nutrition labelling — Requirements*

EAS 804, *Claims on foods — Requirements*

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

ISO 11290-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of *Listeria monocytogenes* — Part 1: Detection method*

ISO 12193, *Animal and vegetable fats and oils — Determination of lead by direct graphite furnace atomic absorption spectroscopy*

ISO 15304, *Animal and vegetable fats and oils — Determination of the content of trans fatty acid isomers in vegetable fats and oils — Gas chromatographic method*

ISO 21527-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0.95*

ISO 2590, *General method for the determination of arsenic — Silver diethyldithiocarbamate photometric method*

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

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

ISO 5508, *Animal and vegetable fats and oils — Analysis by gas chromatography of methyl esters of fatty acids*

ISO 6579-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the 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*

3 Terms and definitions

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

3.1 lipid food supplement
product composed of primarily fat and/or oil formulated in manner that it provides essential fatty acids presented in forms such as capsules, paste or liquid, intended to be taken in measured small quantities but not in conventional food form and whose primary purpose is to supplement the normal diet. The product may contain vitamins and/or minerals as a way of improving its nutritional content

3.2 essential fatty acid
fatty acids that humans and other animals must ingest because the body requires them for good health but cannot synthesis them such as α -linolenic acid (omega-3 fatty acid), linoleic acid (omega-6 fatty acid) and oleic acid (omega-9 fatty acid).

3.3 saturated fatty acid
saturated fatty acids that contain no double bonds and have general formula of R-

3.4 trans-fatty acid
all the geometrical isomers of monounsaturated and polyunsaturated fatty acids having non-conjugated, interrupted by at least one methylene group, carbon-carbon double bonds in the trans configuration

3.5 unsaturated fatty acid
component of the phospholipids in cell membranes and help maintain membrane fluidity. Phospholipids contain a variety of unsaturated fatty acids, but not all of these can be synthesized in the body.

3.6

Docosahexaenoic acid (DHA)

an omega-3 fatty acid that is found along with eicosapentaenoic acid (EPA) in cold-water fish, including tuna and salmon

3.7

Eicosapentaenoic acid (EPA)

polyunsaturated fatty acid with the first double bond located on the third carbon from the terminal methyl group

4 Requirements

4.1 General requirements

4.1.1 The lipid food supplement shall have acceptable flavour and odour and shall be free from rancid, musty or any other foreign odour or flavour characteristic of spoilage.

4.1.2 The product shall be free from dirt, extraneous and deleterious material.

4.2 Specific requirements

4.2.1 The product shall contribute no more than 10 % of total energy requirement in a day.

4.2.2 The product composition shall at minimum, provide the essential fatty acids and both saturated fatty acids and trans fatty acid in compliance to the limits in Table 1.

NOTE It is recommended that iron and copper should be less than 5 mg/kg and 1 mg/kg respectively, as exceeding this limit may contribute to the product going rancid. However, when appropriately coated forms are used, the limit may be exceeded without the product going rancid.

Table 1 — Limits of essential fatty acids, saturated fatty acids and transfatty acids in lipid food supplements/100 g

S/N.	Parameter	Kcal contribution		Grams		% Contribution of energy		Methods of test
		min.	max.	min.	max.	min.	max.	
1.	Linoleic acid (Omega-6 fatty acid)	31.5	45	3.5	5	3.5	5	ISO 5508
2.	α -linolenic acid (Omega-3 fatty acid)	3.5	5.4	0.4	0.6	0.4	0.6	
3.	Docosahexaenoic acid (DHA)	1	1.5	0.1	0.2	0.1	0.2	
4.	Saturated fatty acids (SFA)	NA	70.5	NA	7.8	NA	8.0	AOAC 996.06
5.	Transfatty acids (TFA)	NA	9.2	NA	1	NA	1	ISO 15304

NA means Not Applicable

4.2.3 The sources of lipids or essential fatty acids may be either natural or synthetic and their selection shall be based on considerations such as safety and bioavailability. In addition, purity criteria shall take into account Food and Agriculture Organization/World Health Organization (FAO/WHO) standards.

5 Heavy metal contaminants

The lipid food supplements shall not have any heavy metals in amounts that can cause harm to the consumers and in particular, the product shall comply with the heavy metal limits when tested in accordance with the methods specified in Table 2.

Table 2 — Limits of heavy metal contaminants in lipid food supplements

S/N	Contaminant	Maximum limit, mg/kg	Test method
1.	Arsenic	0.1	ISO 2590
2.	Lead	3	ISO 12193
3.	Cadmium	3	AOAC 973.34
4.	Mercury	0.1	AOAC 971.21

6 Hygiene

6.1 The lipid food supplements shall be prepared and packaged under hygienic conditions in accordance with EAS 39.

6.2 The product shall be free from pathogenic microorganisms and in particular shall conform to the limits when tested in accordance with the test methods in Table 3.

Table 3 — Microbiological limits for lipid food supplements

S/N	Microorganisms	Maximum Limits	test method
i.	Total plate count, cfu/g, max.	10 ³	ISO 4833-1
ii.	Total Coliforms cfu/g	absent	ISO 4832
iii.	Salmonella spp, per25g	absent	ISO 6579-1
iv.	<i>Staphylococcus aureus</i> cfu/g	absent	ISO 6888-1
v.	Listeria spp per 25 g	absent	ISO 11290-1
vi.	Mould and yeast, cfu/g	10 ²	ISO 21527-2

7 Packaging

Lipid food supplements shall be packaged in food grade, non-absorbent materials which do not have adverse effects on the composition of the product including its nutritional value, properties and appearance.

NOTE 1 Packaging materials may be required to meet different regulations in the different destination Partner States

8 Labelling

8.1 General labelling requirements

Lipid food supplements shall be labelled in accordance with EAS 38.

The amount of nutrients, including essential fatty acids shall be declared on the label in accordance with EAS 803

Nutrition and health claims on lipid food supplements may be made in accordance with EAS 804 and EAS 805

8.2 Specific labelling requirements

8.2.1 Name of the product

The name of the product shall be 'Lipid food supplement';

Source of lipid shall be declared

8.2.2 Nutritional information

The label at the minimum shall declare the total energy and parameters provided in Table 1. Where the product is not packaged in 100 g, the percentage contribution by the parameters in table shall be declared.

8.2.3 Instructions for use

The label shall indicate how the product is to be used in relation to the targeted age group, quantity, frequency and any special conditions and precautions that need to be observed.

8.3 Specific prohibition and statements

8.3.1 The labelling, presentation and advertising shall not attribute lipid food supplement the property of preventing, treating or curing a human disease.

8.3.2 The label shall contain a warning not to exceed the stated daily dose recommended by the manufacturer as indicated in 8.2.3.

8.3.3 The label shall have a statement to the effect that food supplements should not be used as a substitute for meals or normal diet.

In addition, the label, presentation or advertisement shall not include any mention stating or implying that a balanced diet cannot provide appropriate quantities of nutrients in general.

8.3.4 The label shall have a statement to the effect that the product should be stored out of reach of children.

8.4 Other labelling requirements

In addition to the above requirements, the following shall be included on the label:

- a) name, and physical address of the manufacturer; packer, distributor, importer, exporter or vendor;
- b) country of origin;
- c) ingredients in descending order of proportions;
- d) food additives by their specific names;
- e) date of manufacture;
- f) expiry date;
- g) batch/ lot number;

- h) condition of storage;
- i) declaration of content of EPA and DHA, if concentrated fish oil is used;
- j) net content; and
- k) allergen(s) if any.

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