



DRAFT EAST AFRICAN STANDARD

Textured soya protein products — Specification

Draft for Public Review Dec,22 - Feb,23

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.

EAS 802 was prepared by Technical Committee EASC/TC 014, *Cereals, pulses and related products*.

Introduction

Soya products are becoming a mainstream part of regional dietary items. The benefit associated with the products includes among others the richness in protein supply. This is of great benefit especially as an alternative protein source. However, it is important to note that soya has naturally high level of anti-nutritional properties related to trypsin inhibitor and tannins. The manufacturers are advised to apply appropriate processing technologies to reduce these anti-nutrient properties to acceptable safe levels for human consumption.

Textured Soya Protein (TSP), also known as Textured Vegetable Protein (TVP) is an easy-to-use soya food variedly made from soya protein flour, defatted soya flour, soya concentrates or isolates. The soya is then texturized through an extrusion process and formed into granules or chunks of varying sizes. Textured soya protein products commonly resemble meat in structure and appearance when hydrated.

This standard has been developed to ensure the safety and quality of textured soya protein products for human consumption.

Textured soya protein products — Specification

1 Scope

This draft East African Standard specifies the requirements sampling and test methods for textured soya protein products 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.

CAC/GL 1, *General guidelines on claims*

CAC/GL 23, *Guidelines for use of nutrition and health claims*

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

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

EAS 803, *Nutrition labelling requirements*

EAS 804, *Claims — General requirements*

EAS 805, *Use of nutrition and health claims — Requirements*

EAS 762, *Dry soybeans — Specification*

EAS 799, *Edible full fat soya flour — Specification*

EAS 801, *Soya protein products — Specification*

ISO 2171, *Cereals, pulses and by-products — Determination of ash yield by incineration*

ISO 5498, *Agricultural food products — Determination of crude fibre content — General method*

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*

ISO 11085, *Cereals, cereals-based products and animal feeding stuffs — Determination of crude fat and total fat content by the Randall extraction method*

ISO 16050, *Foodstuffs — Determination of aflatoxin B1, and the total content of aflatoxins B1, B2, G1 and G2 in cereals, nuts and derived products — High-performance liquid chromatographic method*

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

ISO 21527-2, *Microbiology of food and animal feedstuffs — 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 24333, *Cereals and cereal products — Sampling*

ISO 24557, *Pulses — Determination of moisture content — Air oven.*

3 Terms and definitions

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

3.1

soya bean

whole mature dry bean of *Glycine max* (L) Merr. Varieties

3.2

Soya Protein Product (SPP)

product produced by removing or decreasing certain major non-protein constituents (water, oil, carbohydrates) from soya beans or edible full fat soya flour in a manner to achieve a specific protein content that include Soya protein flour/Defatted Soya Protein flour (SPF or DSF), Soya Protein Concentrates (SPC), and Soya Protein Isolates (SPI).

3.3

textured soya protein products

products made from soya protein flour/defatted soya flour, soya concentrates or isolates through an extrusion process forming textured chunks or granules

4 Requirements

4.1 Raw material

The following raw materials complying with EAS 801 shall be used either singly or in combination:

- a) Defatted Soya protein Flour or Soya Protein Flour (DSF or SPF); or
- b) Soya Protein Concentrate (SPC); or
- c) Soya Protein Isolate (SPI).

4.2 Optional ingredients

In the preparation of texturized soya protein products, the following ingredients, complying with relevant East African and CODEX standards, may be used:

- a) salt;
- b) carbohydrates, including sugars;
- c) edible oils;
- d) minerals and vitamins;
- e) herbs and spices; or
- f) other protein products.

4.3 General requirements

Textured soya protein products shall:

- a) have taste and odour characteristic of product and any approved food additives used;
- b) be free from rancidity and mustiness;
- c) be free from extraneous and foreign matter;

4.4 Specific quality requirements

Textured soya protein shall meet the quality requirements specified in Table 1.

Table 1 — Specific quality requirements for textured soya protein products

S/n	Characteristic	Requirement	Test method
i.	Moisture, % m/m, max.	10.0	ISO 24557
ii.	Protein dry basis (N x 6.25)*, % m/m, min.	40.0	ISO 20483
iii.	Soya oil (fats on dry basis), % m/m, min.	0.5	ISO 11085
iv.	Total ash, % m/m, max.	8.0	ISO 2171
v.	Crude fibre, % m/m, max.	6.0	ISO 5498

* Soya protein products shall meet the requirements basing on Protein content calculated on a dry weight basis excluding added vitamins, minerals, amino acids and food additives.

5 Hygiene

Textured soya protein products shall be prepared and handled in a hygienic manner in accordance with EAS 39 and shall conform to the microbiological limits stipulated in Table 2.

Table 2 — Microbiological limits for soya protein products

S/N	Micro-organism	limit	Test method
I.	<i>Escherichia coli</i> , CFU/g	Absent	ISO 16649
II.	<i>Salmonella</i> spp per 25 g	Absent	ISO 6579-1
III.	Yeast and moulds, CFU/g	10 ³	ISO 21527-2

6 Contaminants

6.1 Pesticide residues

Soya protein products shall comply with those maximum pesticide residue limits established by Codex Alimentarius Commission for similar commodities.

6.2 Heavy metal contaminants

When tested in accordance with AOAC 972.25, the level of Lead (Pb) in soya protein products shall not exceed 0.1 mg/kg. The product shall not contain other heavy metal contaminants in amounts which may represent a hazard to health

6.3 Aflatoxins

The maximum content of aflatoxins in soya protein products shall not exceed 5 µg/kg (ppb) for aflatoxin B₁ and 10 µg/kg for total aflatoxins when tested in accordance with ISO 16050.

7 Packaging

Textured soya protein products shall be packed in food grade packaging materials which will safeguard the hygienic, nutritional, technological and organoleptic qualities of the products..

8 Labelling

In addition to the requirements given in EAS 38, containers packed with textured soya protein products shall be legibly and indelibly labelled with the following information;

- a) name of the product shall be "Textured soya protein product";
- b) declaration of protein content and sources;
- c) name and physical address of the manufacturer;
- d) lot identification/ batch/ number;
- e) net weight in metric units;
- f) list of ingredients in descending order;
- g) list of any food additives used;
- h) date of manufacture;
- i) country of origin;
- j) storage conditions;
- k) expiry date;
- l) declaration of food allergens ; and
- m) statement "Food for human".

9 Nutritional labelling, nutrition and health claims

Textured soya protein products, may have claims on protein content and its source. Such claims when declared shall comply to EAS 803, EAS 804, EAS 805

10 Method of sampling

Sampling shall be done in accordance with ISO 24333.

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