



DEAS 743:2010  
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## **EAST AFRICAN STANDARD**

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**Cassava crisps — Specification**

**EAST AFRICAN COMMUNITY**

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*Draft for comments only — Not to be cited as East African Standard*

## Foreword

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

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. 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.

Article 15(1) of the EAC SQMT Act, 2006 provides that "Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose".

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.

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East African Community

P O Box 1096

**Arusha**

Tanzania

Tel: 255 27 2504253/8

Fax: 255-27-2504481/2504255

E-Mail: [eac@eachq.org](mailto:eac@eachq.org)

Web: [www.each.int](http://www.each.int)

## Acknowledgement

This standard was developed with support from the Policy Analysis and Advocacy Programme (PAAP) of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). This was possible through a grant by the United States Agency for International Development (USAID). This support was used in the process of formulation and mobilization of stakeholders to review the standard in national and regional fora.

ASARECA is a non-political association of agricultural research institutes in: Burundi, DR Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania and Uganda. ASARECA serves as a platform for promoting regional research and in the sharing of benefits and spillovers that derive from such research. The mission of ASARECA is to *“Enhance regional collective action in agricultural research for development, extension and agricultural training and education, to promote economic growth, fight poverty, eradicate hunger and enhance sustainable use of resources in Eastern and Central Africa”*.

Development of standards has been part of PAAP’s contribution to changing the way business is done in crucial agricultural sectors to increase efficiency and/or reduce waste through rationalization and harmonization of policies, laws, regulations and procedures. Rationalization focuses on how countries conduct business in a given subsector, and determines what should be done to make the procedures and processes more efficient. Harmonization brings together regionally different approaches (policies, laws, regulations and procedures) into unified approaches that are applied across the countries. This harmonization process allows commodities and factors to move freely across national boundaries, thereby improving domestic and foreign investment by expanding markets beyond national borders. Over time this will lead to gradual attainment of seamless borders for trade in cassava and cassava products across the region.

Removal of regulatory bottlenecks to transboundary movement of cassava products in the region will enhance competitiveness of trade and value addition in the sub-sector. It will improve the value chains by supporting product differentiation and hence increased trade in cassava products in the region. This will ultimately contribute to incomes, employment generation and improved welfare in the region. This fits snugly with the aspirations of ASARECA as a key player contributing to economic development of the region.

**Introduction**

Crisps are thin slices of fruit or vegetable (usually cassava), deep-fried or baked until brittle and served as an appetizer, side dish, or snack. The crisps are just cooked and salted, but manufacturers can add a wide variety of seasonings using herbs, spices, cheese, or artificial additives.

Crisps are an important part of the snack food in the market. Crisps can be packaged in a variety of ways including tins to keep the crisps fresh until opened.

This standard is intended to provide guidance on the essential characteristics of crisps in order to promote the use cassava in the processing of crisps and ensure that products are of high quality and safety.

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## Cassava crisps — Specification

### 1 Scope

This draft East African Standard specifies requirements and methods of sampling and test for crisps made from sweet varieties of cassava (*Manihot esculenta* Crantz).

### 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.

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

EAS 39, *Code of practice for hygiene in the food and drink manufacturing industry*

EAS 103, *General standard for food additives*

EAS 321, *Edible fats and oils – Specification*

EAS 35, *Edible salt - Specification*

EAS 217-2, *Methods for the microbiological examination of foods — Part 2: General guidance for the enumeration of micro-organisms — Colony count technique at 30 °C*

EAS 217-8, *Methods for the microbiological examination of foods — Part 8: Enumeration of yeast and moulds in foods*

DEAS 744, *Cassava and cassava products — Determination of total cyanogens — Enzymatic assay method*

DEAS 738, *Fresh sweet cassava — Specification*

EAS 98, *spices and condiments — Specification*

ISO 2447, *Fruits and vegetable products – Determination of tin content*

ISO 3094, *Fruit and vegetable products – Determination of copper*

ISO 6633, *Fruit and vegetable products – Determination of lead content – Flameless AAS method*

ISO 6634, *Fruit and vegetable products – Determination of arsenic content – Silver diethyldithiocarbamate spectrophotometric method*

EAS 82, *Milled cereal products — Methods of test (General methods)*

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

### 3 Product description

#### **cassava crisps**

thin slices of peeled and washed cassava roots deep-fried until crunchy

# DEAS 743:2010

## 4 Essential quality and compositional requirements

### 4.1 Raw materials

The following materials shall be used in the processing of cassava crisps:

- a) cassava roots; conforming to DEAS 738
- b) edible oil or fat conforming to relevant East African Standards.

NOTE Using the oil several times may lead to poor quality and affect the safety of the crisps.

In addition the following optional ingredients may be added:

- a) spices and condiments conforming to EAS 98; and
- b) edible salt conforming to EAS 35.

### 4.2 General quality requirements for the finished product

#### 4.2.1 Physical and sensory factors

- a) Plain cassava crisps shall be light yellow to golden brown in colour. Where spices or other additives are used, the colour shall be characteristic of that ingredient.
- b) Cassava crisps shall be free from off-flavour, rancidity, bitter taste and any other blemish.
- c) The crisps shall be uniform in size and have a thickness of between 1.0 mm - 1.5 mm.
- d) The cassava crisps shall not show any blisters or noticeable separation between the outer and the inner portions.
- e) The cassava crisps shall be crunchy or crispy and free from sogginess and excessive oil.

#### 4.2.2 Defects

Cassava crisps shall not contain more than 10 % by mass of small pieces, slivers and irregular pieces.

Packaged cassava crisps shall have not more than 1 % of the crisps with the following defects:

- a) surface or internal pigmentation;
- b) blisters;
- c) callous area; and
- d) black specks and spots.

#### 4.2.3 Foreign matter and adulterants

Cassava crisps shall be free from foreign matter and any other adulterants

### 4.3 Composition requirements for cassava crisps

Cassava crisps shall conform to the specified composition in Table 1.

Table 1 — Compositional requirements for cassava crisps

Parameters	Requirements	Method of test
Moisture content, %, by mass, max.	5	
Fat content on dry weight, %, max.	35	
Free fatty acids on dry weight basis, %, max.	0.5	
Sodium chloride (NaCl) on dry weight basis, %, max	2	
Potential cyanide, mg/kg, max	10	DEAS 744
Acid insoluble ash, %, by mass, max	0.05	EAS 82
Peroxide value, meq oxygen per gram	0.5	

## 5 Food additives

Food additives may be used in the preparation of cassava crisps in accordance with EAS 103.

## 6 Contaminants

### 6.1 Pesticide residues

Cassava crisps shall conform to maximum residue limits for pesticide residues established by the Codex Alimentarius Commission for this commodity.

### 6.2 Other contaminants

Cassava crisps shall comply with the maximum levels of the Codex General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193).

## 7 Hygiene

Cassava crisps shall be prepared and handled in a hygienic manner in accordance with EAS 39 and shall conform to microbiological limits specified in Table 2

Table 2 — Microbiological limits for cassava crisps

Micro-organism(s)	Requirements	Method of test
Total viable count, CFU per gram, max	10 <sup>4</sup>	
<i>Escherichia coli</i> , CFU per 10 grams	Shall be absent	ISO 4833
Salmonella	Shall be absent	ISO 6579
Yeasts and moulds, CFU per gram	10 <sup>5</sup>	ISO 21527-2

## 8 Packaging

Before packaging, excess oil shall be removed and the crisps packaged within a short time after frying so as to keep the crispy taste and texture.

Cassava crisps shall be packaged in food grade material which will safeguard the hygienic, nutritional, and organoleptic qualities of the product.

## DEAS 743:2010

The packaging materials shall comply with the environmental legislation of the destination country,

### 9 Weights and measures

Cassava crisps shall be packaged in accordance with the Weights and Measures requirements of the destination country,

### 10 Labelling

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

- a) common name of the product 'Cassava crisps';
- b) name, and physical address of the manufacturer/ distributor and /or trade name/ brand name ;
- c) if spiced they shall be labelled 'Spiced Cassava Crisps';
- d) date of manufacture;
- e) list of ingredients
- f) lot identification
- g) best before date ;
- h) country of origin
- i) the net weight
- j) storage instruction
- k) declaration of flavouring agent or spice used
- l) instructions on disposal of used package.

**9.2** When labelling non-retail packages, information for non-retail packages shall either be given on the packages or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the packages.

### 8 Methods of test

The product covered by this standard shall be tested in accordance with the methods of test indicated in the relevant clauses of this standard.

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