**DRAFT KENYA STANDARD DKS 2902:2020**

ICS 67.080

## Potato flakes — Specification

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Agriculture and Food Authority- Food Cop directorate

Kenya Agricultural & Livestock Research Organization

Kenya Industrial Research & Development Institute

National Potato Council of Kenya

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Graduate Africa Ltd

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ICS 67.060

## Potato flakes — Specification

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**Foreword**

This Kenya Standard has been developed by the Tubers and Tuber Products Technical Committee under the guidance of the Standards Projects Committee and it is in accordance with the procedures of Kenya Bureau of Standards.

Potatoes are common foods in many households in Kenya and are currently being fronted as one of the food security crops under the BIG 4 agenda. One of the challenges facing the sector is on post-harvest losses. Potato flakes is one of the innovative ways available for processing of potatoes hence increasing its utilization and prolonging the shelf-life of the potatoes. Being a new product in the market, there is need for a standard for uniformity and conformity. In order to assure quality and consumer safety, it was necessary to develop a national standard for potato flakes. This first edition of the standard thus intends to safeguard the interests of the stakeholders in the entire value chain, guarantee product quality and enhance safety of the consumers.

In the preparation of this standard, reference was made to:

KSEAS 745 Potato crisps - specification

Acknowledgement is hereby made for the assistance derived from these sources.

## Potato flakes — Specification

**1 Scope**

This draft Kenya Standard specifies requirements and methods of sampling and test for potato flakes

made from potato tubers of edible variety *Solanum tuberosum*

2 Normative references

The following referenced 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

KS EAS 35, *Specification for edible (fortified) salt*

KS EAS 38, *General standard for labeling of prepackaged foods*

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

KS EAS 103, *Schedule of permitted food additives*

KS EAS 321, *Edible oils and fats —Specification*

KS EAS 748, *Fresh potatoes — Specification*

KS EAS 98, *Spices and condiments — Specification*

AOAC 2013.06, *Arsenic, Cadmium, Mercury and Lead in foods*

KS ISO 6579-1, *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 1: Detection of Salmonella spp.*

KS 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*

KS ISO 16649-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 2: Colony-count technique at 44 degrees C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide*

KS 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*

KS ISO 6633 *Fruits, vegetables and derived products -- Determination of lead content -- Flameless atomic absorption spectrometric method*

KS ISO 6561 *Fruits, vegetables and derived products -- Determination of cadmium content -- Part 1: Method using graphite furnace atomic absorption spectrometry*

**3 Terms and definitions**

**3.1**

**potato flakes**

potato products processed by boiling, mashing and dehydrating

**3.2**

**food grade material**

material which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product

**4 Requirements**

**4.1 Raw materials**

The following raw materials shall be used in the processing of potato flakes:

a) potatoes conforming to KS EAS 748,

In addition, the following optional ingredients may be added:

1. edible oils and fats conforming toEAS 321,
2. spices and condiments conforming to EAS 98; and
3. edible salt conforming to EAS 35.

**4.2 General requirements**

a) Plain potato flakes shall be of a colour that is characteristic of the variety of potatoes used. Where additives are used, the colour shall be characteristic of the ingredients.

b) potato flakes shall be free from off-flavour, rancidity and bitter taste

c) The potato flakes shall have a smooth/ uniform consistency

d) potato flakes shall be free from foreign matter and any other adulterants

**4.3 Specific requirements**

4.3.1 potato flakes shall conform to the specified compositional requirements in Table 1.

# Table 1 — Compositional requirements for potato flakes

|  |  |  |  |
| --- | --- | --- | --- |
| **SL No.** | Parameter | **Limit** | Test method |
|  | Moisture content, %, by mass, max. | 10 | ISO 712 |
|  | Free fatty acids on dry weight basis, %, max. | 0.5 | EAS 321 |
|  | Sodium chloride(NaCl) on dry weight basis, %, max | 2 | EAS 35 |
|  | Acid insoluble ash,%, by mass, maxa | 0.05 | KS EAS 82 |
| a) % mass on dry matter basis. | | | |

**5 Food additives**

Food additives may be used in the preparation of potato flakes in accordance with EAS 103.

**6 Hygiene**

**6.1** Potato flakes shall be processed and handled in accordance with EAS 39.

**6.2** The product shall comply with microbiological limits given in Table 2 when tested in accordance with the test methods specified therein

**Table 2 — Microbiological limits for potato flakes**

|  |  |  |  |
| --- | --- | --- | --- |
| s/no | **Micro-organism** | **Maximum limit** | **Test method** |
| i. | *Escherichia coli* per 1 g | Absent | ISO 16649-1 |
| ii. | *Salmonella* per 25 g | Absent | ISO 6579 |
| iii. | Yeast and moulds cfu/g | 103 | ISO 21527-2 |
| iv. | *Staphylococcus aureus* per 25 g | Absent | ISO 6888-1 |

**6 Contaminants**

**6.1 Heavy metals**

Potato flakes shall comply with limits for heavy metals established by the Codex Alimentarius Commission as given in Table 3 when tested in accordance with the test methods specified therein

**Table 3 — Heavy metals limits for potato flakes**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Heavy metal** | **Limit**  mg/kg | **Test method** |
| ii. | Lead (Pb) | 0.1 | ISO 6633 |
| iii. | Cadmium (Cd) | 0.1 | ISO 6561-1/2 |

**6.2 Other contaminants**

Potato flakes shall comply with the maximum levels of the Codex General Standard for

Contaminants and Toxins in Food and Feed (CODEX STAN 193).

**7 Packaging**

Potato flakes shall be packaged in food grade material which will safeguard the hygienic, nutritional,

and organoleptic qualities of the product.

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

**8 Weights and measures**

Potato flakes shall be packaged in accordance with the existing Weights and Measures requirements.

**9 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) name of the product ‘Potato flakes;

b) name, and physical address of the manufacturer/ distributor and /or trade name/ brand name;

c) if spiced they shall be labelled ‘Spiced Potato flakes”;

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.

m) nutritional information

n) method of preparation for consumption

**9.2** When labelling non-retail packages, information 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**.**

**10 Methods of test**

The product covered by this standard shall be tested according to the methods of test indicated in this

standard.

**11 Criteria for conformity**

A lot shall be declared as conforming to this standard if samples inspected or analyzed for quality requirements conform to the provisions of this standard.