KENYA STANDARD

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ICS ##.###

First Edition

Almond Kernels — Specification

Kenya Bureau of Standards

Standards for Quality life

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The following organizations were represented on the Technical Committee:

Agriculture and Food Authority - Nuts and Oil Crops Directorate
Competition Authority of Kenya
Consumer Information Network
Government Chemist's Department
Jungle Nuts Ltd.
Kakuzi PLC
Kenya Agricultural and Livestock Organization
Kenya Industrial Research and Development Institute
Kenya Nut Company Limited
Kenyatta University
Kenya Plant Health Inspectorate Service (KEPHIS)
Ministry of Health
National Public Health Laboratories
Sagana Nuts Limited
SGS Kenya Limited
Syncom Food Consultancy Ltd.
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Topnuts Enterprises Ltd.
Agventure Ltd
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Kenya Bureau of Standards — Secretariat

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DKS 2991:2023

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REVISION OF KENYA STANDARDS

In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

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Foreword

This Kenya Standard was prepared by the Edible nuts and Seeds Technical Committee under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards

This Kenya standard lays down specifications aiming at ensuring the safety and quality of almond kernels produced or traded in the country for human consumption.

During the preparation of this standard, reference was made to the following document:

UNECE STANDARD DPP-06 Almond kernels published by the United Nations, New York, and Geneva,2003.

Acknowledgement is hereby made for the assistance derived from this source.

Almond Kernels — Specification

1 Scope

This Draft Kenya Standard specifies requirements, methods of sampling and test for shelled raw, roasted, blanched and fried almond kernels. obtained from almond fruit (*Amygdalus communis L*.) intended for human consumption.

This standard does not apply to bitter almond kernels.

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.

CXG 66, Guidelines for the use of flavourings

CXS 192, General standard for food additives

CXS 193, General standard for contaminants and toxins in food and feed

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

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

KS EAS 803, Nutrition labelling — Requirements

KS EAS 804, Claims on foods — General requirements.

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

KS ISO 665, Oilseeds — Determination of moisture and volatile matter content

KS ISO 729, Oilseeds — Determination of acidity of oils

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 the food chain — Horizontal method for the enumeration of coagulase-positive Staphylococci (Staphylococcus aureus and other species) — Part 1: Method using Baird-Parker agar medium

KS 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

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 21294, Oilseeds — Manual or automatic discontinuous sampling

3 Terms and definitions

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

3.1

raw almond kernel

raw almond with its shell removed and which has not been subjected to roasting and/or any form of treatment

3.2

Roasted almond

almond with or without the seed coat which has been subjected to dry heat and to which salt (in form of powder or brine) and/or spices may have been added

3.3

Fried almond

almond with or without the seed coat which has been processed in edible fat or oil and to which salt (in form of powder or brine) and/or spices may have been added

3.5 Blanched almond

Almond with the seed coat which has been boiled to facilitate removal of the testa.

3.5

damaged/defective

kernel, which is damaged mechanically, or by mould or insects or those showing internal discoloration of kernels materially affecting the quality'.

3.6

other defects

almonds kernels that have skin discolouration, flesh discolouration and/or sprouted kernels

3.7

whole

almond kernel which is not split or broken

3.8

split

separated 'half' of an almond kernel

3.9

broken kernel

more than one fourth of the almond kernel is broken off

3.10

foreign matter

Any visible and/or apparent matter or material not usually associated with raw and roasted hazelnut kernels.

4. Requirements

4.1 Raw materials

Roasted, blanched and fried almonds shall be prepared from:

a) raw almonds complying with 4.3 and 4.4; and

b) other ingredients complying with the relevant standards.

4.2 General requirements

4.2.1 Raw almonds shall be mature and uniform in shape, size, and colour according to variety and grade.

4.2.2 Roasted, fried and blanched almonds shall:

a) be either whole, broken or split; and

b) peel easily where applicable

4.2.3 Raw, roasted blanched, and fried almonds shall be free from dead or living insects, insect fragments and mites.

4.3 Specific requirements

Raw, roasted, blanched and fried almonds shall comply with the specific requirements given in Table 1 when tested in accordance with the test methods specified therein.

Table 1 — Specific requirements for raw, roasted, and fried almonds

Table 1 — Specific requirements for raw, roasted, and fried almonds

S/No	Characteristic		Requirements %	Test method
i)	Moisture content, m/m, max.	Raw almonds	6.0	KS ISO 665
		Roasted, blanched and fried almonds	4.0	
ii)	Free fatty acids, m/m, max.		2.0	KS ISO 729

4.4 Grading requirements

Grading of raw almond kernels shall be as given in annex A.

5 Food additives

Food additives when used in almond kernels shall comply with CXS 192.

6 Flavouring agents

Flavouring agents when used in almond kernels shall comply with CXG 66.

7 Contaminants

7.1 Aflatoxin

Aflatoxin levels in almond kernels shall not exceed the limits given in Table 2 when tested in accordance with the test methods specified therein.

Table 2 — Aflatoxin limits for almond kernels

S/No.	Aflatoxin	Maximum Limit	Test Method
i)	Total Aflatoxin µg/kg	10	KS ISO 16050
ii)	Aflatoxin B1 µg/kg	5	

7.2 Pesticide residues

Almond kernels shall comply with those maximum residue limits established by the Codex Alimentarius Commission.

7.3 Other contaminants

Almond kernels shall comply with those maximum limits for other contaminants established in CXS 193.

8 Hygiene

8.1 Almond kernels shall be produced, prepared and handled in accordance with KS EAS 39.

8.2 Roasted and fried almond kernels shall comply with the microbiological requirements given in Table 3 when tested in accordance with the test methods specified therein.

Table 3- Microbiological requirements for almond kernels

S/No.	Characteristic	Requirement	Test Method
i)	Escherichia coli, CFU/g A	Absent	KS ISO 16649-2
ii)	Salmonella spp. in 25 g	Absent	KS ISO 6579-1
iii)	Staphylococcus aureus,CFU/g	Absent	KS ISO 6888

9 Packaging

Almond kernels shall be packaged in food grade packaging material that will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

10 Labelling

10.1 General

In addition to the requirements given in KS EAS 38, the product shall be legibly and indelibly labelled with the following information:

a) name of the product as “Raw almonds” or “Roasted almonds” or “Fried almonds”: and

b) Where grading is applied, it shall be in accordance to Annex A of this standard.

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10.2 Nutrition labelling and health claims

Nutrition labelling and health claims shall comply with the requirements given in KS EAS 803, KS EAS 804 and KS EAS 805.

11 Sampling

Sampling shall be done in accordance with KS ISO 21294.

Annex A

(Normative)

Grading requirements for raw almond kernels.

	Tolerances allowed. (per cent of defective almond kernels by weight)		
	Extra	**Class I**	**Class II**
Total tolerance for kernels not satisfying the minimum requirements,	5	10	15
of which no more than:			
Rancid, rotten, mouldy and damaged by insects or other pests [a]	1	2	3
of which mouldy:[6]	0,5	0,5	1
Gummy, brown spot, blemishes and discoloration	2	3	6
Bitter almonds	1	3	4
Shrunken or shrivelled and not sufficiently developed kernels	1	2	4
Split, broken and halves	1	3	5
Pieces	1	1	3
Inshell almonds, shell or skin fragments, dust and foreign matter	0.15	0.25	0.25
b) Other defects (not included in the total tolerances):			
- Chipped and scratched.	5	10	15
- Doubles or twins [b]	5	15	20 [c]

Living pests are inadmissible in any class.

b When the marking indicates “without doubles” or “without twins”, these tolerances shall be reduced to 1 per cent, for Extra Class and 3 per cent for Class I and Class II.

c In Class II, when the marking indicates “with doubles” or “with twins”, no limit of doubles or twins is applied.

For Extra Class and Class I, there may be a maximum of 10 per cent, by weight, of kernels belonging to different varieties or commercial types, from the same local production area. For Class II, where the variety or commercial type are indicated in the marking, a maximum tolerance of 20 per cent is allowed.

