

DRAFT KENYA STANDARD

DKS 2430:2025

ICS 67.040

Third Edition

Ginger paste — Specification

TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

Jomo Kenyatta University of Agriculture and Technology

Technical University of Kenya

Kenya Industrial Research and Development Institute (KIRDI)

Consumer Information Network (CIN)

Ministry of Health — Department of Public Health

Government Chemist's Department

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Jomu Spice Firm

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REVISION OF KENYA STANDARDS

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Foreword

This Kenya Standard was prepared by the Spices and Condiments Technical Committee under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards.

Kenya Bureau of Standards (KEBS) has established Technical Committees (TCs) mandated to develop Kenya Standards (KS). The Committees are composed of representatives from the public and private sector organizations in Kenya.

Kenya Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft Kenya Standards are circulated to stakeholders through the KEBS website and notifications to World Trade Organization (WTO). The comments received are discussed and incorporated before finalization of the standards, in accordance with the Procedures for Development of Kenya Standards.

Kenya Standards are subject to review, to keep pace with technological advances. Users of the Kenya Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off. This Third Edition of the standard has been reviewed to incorporate reviewed test methods for microbiology and heavy metal contaminant limits.

This Third edition cancels and replaces the second edition (KS 2430:2018) which has been technically revised.

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

The Food, Drugs and Chemical Substances Act, Cap. 254 of the Laws of Kenya.

Codex Stan 192, Codex General Standard for food additives,

Codex Stan 193, Codex General Standard for contaminants in Foods and feeds.

The Public Health Act, Cap. 242 of the Laws of Kenya.

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

Ginger paste — Specification

1 Scope

This Draft Kenya Standard specifies requirements, sampling and test methods for concentrated ginger paste, and raw ginger paste that is well blended.

2 Normative references

The following referenced documents 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.

CXS 192, *Codex standard for Additives in foods*

CXS 193, *Codex standard for contaminants in food and feeds.*

KS EAS 35, *Fortified edible salt — Specification*

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

KS EAS 39, *General principles of food hygiene — Code of practice*

ISO 15213-2:2023 *Microbiology of the food chain — Horizontal method for the detection and enumeration of Clostridium spp.*

KS ISO 948, *Spices and condiments — Sampling*

KS ISO 2173, *Fruit and vegetable products — Determination of soluble solids — Refractometric method*

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

KS ISO 4833-1:2013 *Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 1: Colony count at 30 °C by the pour plate technique*

KS ISO 6570-1:2017 *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)*

KS ISO 6632, *Fruits, vegetables and derived products — Determination of volatile acidity*

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

KS ISO 6634, *Fruits, vegetables and derived products — Determination of arsenic content — Silver diethyldithiocarbamate spectrophotometric method*

KS ISO 6579, *Microbiology of food and animal feeding stuffs- part 6: Horizontal method for the detection of Salmonella SPP*

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 16654, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Escherichia coli O157*

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*

3 Terms and definitions

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

3.1

concentrated ginger paste

ginger paste made under vacuum to preserve the nature of the product by lowering the dehydration temperature

3.2

raw ginger paste

ginger paste which is uncooked and has undergone a basic sorting/cleaning process peeling/unpeeling and then ground using commercial grinders or home grinders to a paste and is meant to be refrigerated during storage

3.3

extraneous matter

fibre and skin common to ginger

4 Requirements

4.1 General requirements

4.1.1 Ginger paste shall be obtained by grinding or crushing of clean ginger rhizomes and addition of a preservative such as citric acid, with subsequent concentration under vacuum.

4.1.2 Ginger paste shall be of the consistency of crushed ginger.

4.1.3 The rhizomes used shall be mature, sound fresh, and free from insect and fungal attack.

4.1.4 Colour ginger paste shall be light to dark tan in colour.

4.1.5 Flavour ginger paste shall have characteristic flavour with no burnt flavour or other off flavour

4.1.6 Ginger paste shall be free from extraneous matter.

4.1.7 Ginger paste shall be free of insect fragments and contamination from rodents

4.2 Specific requirements

4.2.1 Physical and chemical requirements for ginger paste

Ginger paste shall comply with the physical and chemical limits given in Table 1, when tested in accordance with the methods given their in.

Table 1 — Physical and chemical limits for raw and concentrated ginger past

| S/N | Characteristic | Requirement For raw ginger Paste | Requirements For the Concentrated ginger paste | Test method |
|------|---------------------------------------|--|--|-------------|
| i. | Total soluble solids, %, m/m, min. | 22 | 55 | ISO 2173 |
| ii. | Acidity as acetic acid, max | 0.8 | 5 | ISO 6632 |
| iii. | Total insoluble pulp, %, m/m, max. | 3 | 2 | Annex B |

4.2.2 Heavy metal contaminants for raw and Concentrated ginger paste

Ginger paste shall comply with the heavy metal contaminant limits in Table 2 when tested in accordance with the methods given their in.

Table 2 — Heavy metal contaminant limits for Raw and Concentrated ginger paste

| SL No | Characteristic | Requirement | Test method |
|-------|----------------------------|-------------|-------------|
| i) | Arsenic (as As), ppm, max. | 0.1 | KS ISO 6634 |
| ii) | Lead (as Pb), ppm max. | 2 | KS ISO 6633 |

4.2.3 Microbiological limits for raw and concentrated ginger paste

Ginger paste shall comply with the microbiological limits given in Table 3 when tested in accordance with the methods given their in.

Table 3 — Microbiological limits for raw and concentrated ginger paste

| SL No | Characteristic | Limit | Test method |
|----------------------------|--|--------|--------------|
| i) | Coli forms, cfu/g | < 10 | KS ISO 4832 |
| ii) | Yeast and mould counts, cfu/g | < 10 | KS ISO 21527 |
| iii) | <i>E. Coli</i> counts, cfu/g | Absent | KS ISO 16654 |
| iv | <i>Clostridium perfringens</i> cfu/g ^{a)} | < 10 | KS ISO 793 |
| v) | <i>Salmonella</i> , cfu per 25 g | Absent | KS ISO 6579 |
| vi) | <i>Staphylococcus aureus</i> cfu/ g | < 10 | KS ISO 6888 |
| ^a unless canned | | | |

4.3 Food Additives

No additives other than those permitted under the Food, Drugs and Chemical substances Act, Cap. 254 of the Laws of Kenya, Public Health Act, Cap. 242 and CXS 192 shall be used.

5 Hygiene

Ginger paste shall be manufactured under hygienic conditions complying with KS EAS 39, the Public Health Act, Cap. 242 Laws of Kenya, Food Drugs and Chemical Substances Act, Cap. 254 of the Laws of Kenya.

6 Aflatoxins

Ginger paste shall not have more than 10 ppb total aflatoxins and 5 ppb aflatoxin B1, when tested according to KS ISO 16050.

7 Weights and measures

Fill of the container shall comply with the Weights and Measures Act, Cap. 513 of the Laws of Kenya.

8 Environmental management

Ginger paste shall be processed in an environment that complies with EMCA 1999 No.8 on Environmental Management and comply with Cleaner Production Technology.

9 Packaging

Ginger paste shall be packed in food grade containers that secure product integrity and safety of the ginger paste.

10 Labelling

Labelling shall be done in accordance with EAS 38. Each container shall be legibly and indelibly marked with the following information:

- name of the product i.e. raw ginger paste or concentrated ginger paste;
- name and physical address of the Manufacturer;

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- c) net weight of the contents in grams or kilograms;
- d) Date of manufacture;
- e) code number/lot number;
- f) list of ingredients in descending order;
- g) expiry date;
- h) storage instructions;
- i) instructions for use;
- j) GMO status;
- k) Instructions for disposal of used package;
- l) Irradiation status (where applicable); and
- m) Country of origin.

11 Sampling

Sampling shall be done in accordance with KS ISO 948.

**Annex A
(informative)**

Determination of total soluble solids

A.1 Apparatus

Refractometer, either hand or Abbe refractometer.

A.2 Procedure

Keep one or two drops of the ginger paste concentrate sample between the two prisms of the refractometer and read the percentage of refractometric soluble solids. Although the instrument is calibrated at 20 °C, no temperature correction is usually necessary, if readings are taken at room temperature.

**Annex B
(normative)**

Determination of total insoluble pulp

B.1 Procedure

B.1.1 Boil 20 g of sample with 100 ml distilled water for 30-40 min.

B.1.2 Filter through dried and weighed filter paper. Wash with hot water.

B.1.3 Dry paper at 100°C constant weight.

B.2 Report

From this weight subtract the weight of the filter paper. This gives the weight of total insoluble pulp.

Bibliography

KS 2430:2018, *Ginger paste — Specification*