



DRAFT TANZANIA STANDARD

Ginger garlic paste – Specification

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TANZANIA BUREAU OF STANDARDS

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0. Foreword

Ginger garlic paste is the product that combines pure and fresh ginger and garlic; blended well and preserved for freshness for use in food to add flavor. This Tanzania standard was prepared to ensure the safety and quality of ginger garlic paste produced and/or marketed for domestic and export market.

In developing this standard assistance was drawn from stakeholders who provided necessary information and samples.

In reporting the result of a test or analysis made in accordance with this standard, if the final value observed or calculated, is to be rounded off, it shall be done in accordance with TZS 4 (See clause 2).

1 Scope

This Tanzania Standard specifies requirements, sampling and method of test for ginger garlic paste prepared from *Allium sativum* L. and *Zingiber officinale* L. intended for human consumption.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies :-

TZS 4, *Rounding off numerical values*

TZS 29:201, *Spices and condiments – Terminology*

TZS 33, *Spices and condiments – Sampling*

TZS 47, *Ginger Specification*

TZS 109, *Food processing units – Code of hygiene*

TZS 122-1/ISO 6579-1, *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella- Part 1: Detection of Salmonella spp.*

TZS 125, *Microbiology of food and animal feeding stuffs – Horizontal method for enumeration of coagulase – Positive staphylococci (Staphylococcus aureus and other species)*

TZS 268, *General atomic absorption spectrophotometric method for determination of lead in food stuffs*

TZS 445, *Dehydrated garlic - Determination of volatile organic sulphur compounds.*

TZS 538 (EAS 38:2014), *Labelling of pre-packaged foods — General requirements*

TZS 730- 2: (1st Ed) ISO 16649 (Part 2), *Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of -b-glucuronidase-positive Escherichia coli – Part 2 – Colony-count technique at 44 0C using 5-bromo-4-chloro-3-indolyl-b-D-glucuronide*

TZS 799 (3rd Ed)/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*

TZS 1491 - *Fruits and Vegetables – Determination of pH*

TZS 1496/ ISO 2173, *Fruits, vegetables and derived products – Sampling and methods of test – Part 10: Determination of soluble solids*

TZS 1501/ ISO 6637, *Fruits, vegetables and derived products – Sampling and methods of test – Part 16: Determination of mercury content – Flameless atomic absorption method*

TZS 1502, *Fruits and Vegetables – Determination of Arsenic content*

TZS 1503, *Fruits and Vegetables – Determination of Ash Insoluble in Hydrochloric Acid*

FTZS 1744, *Dehydrated garlic Specification*

TZS 2426 (ISO 21527-1), *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 1: Colony count technique in products with water activity greater than 0,95*

Codex Stan 192, *General Standard for Food Additives*

3 Terms and definitions

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

3.1 ginger

rhizome grown from *Zingiber officinale* Roscoe, of the *Zingiberaceae* family

3.2 garlic

a bulbous herb (*Allium sativum*) of the lily family strong-smelling bulb made up of small sections called cloves

3.3 ginger garlic paste:

product obtained by grinding clean raw ginger rhizome and garlic head (cloves) in which salt, citric acid and other spices, condiments and herbs may be added.

3.4 extraneous matters:

foreign matters such as roots, soil, skins, stems, leaves, dirt or any material other than ginger garlic paste.

4 Requirements

4.1 General requirements

4.1.1 Ingredients

4.1.1.1 Main ingredients

The main ingredients for ginger garlic paste shall be ginger complying with TZS 47 and garlic complying with FTZS 1744.

4.1.1.2 Optional Ingredients

Salt, spices other than ginger and garlic and herbs listed in TZS 29 complying with relevant Tanzania Standard may be added.

4.1.2 Colour

The colour of the ginger garlic paste shall be characteristic of the ingredients used. The product shall be practically free from scorched and toasted particles.

4.1.3 Taste and odour

Ginger garlic paste shall have a characteristic taste and pungent odour of ginger and garlic and other ingredients used, free from foreign taste, odours and off odours, such as those coming from mouldy, rancid or fermented ginger garlic paste.

4.1.4 Freedom from insects, moulds and extraneous matter

Ginger garlic paste shall be free from extraneous matter; live insects, and practically free from moulds, dead insects, insect fragments and rodent contamination.

4.2 Specific requirements

Ginger garlic paste shall comply with the requirements specified in Table 1, when tested by the specified method.

Table 1: Specific requirements for garlic and ginger paste

S/No	Characteristic	limit	Method of test
1	Total soluble solids, % (m/m), min	18	TZS 1496
2	Total insoluble pulp, % m/m, max.	2	Annex A
3	pH	4-5	TZS 1491
4	Acid insoluble ash, % (m/m), max.	0.5	TZS 1503
5	Volatile organic Sulphur compounds content, % (m/m), min.	0.2	TZS 445

5. Food additives

The use of food additives in ginger garlic paste shall be in accordance with Codex Stan 192.

6. Hygiene

Ginger garlic paste shall be prepared under Good Hygienic Practices as stipulated in TZS 109, *Codes of hygiene for food processing units- General* and shall be complied to the requirements specified in Table 2.

Table 2: Microbiological requirement for ginger garlic paste

S/No	characteristic	Maximum limit	Test method
1	<i>E. coli</i> , cfu/g	Absent	TZS 730-2
2	Yeast and moulds cfu/g, max.	10 ²	TZS 2426- 1
3	<i>Staphylococcus aureus</i> , cfu/g	10 ²	TZS 125
4	Salmonella, spp per 25 g	Absent	TZS 122 - 1

7 Contaminants

7.1 Heavy metals

Ginger garlic paste shall not contain any metal contaminants in excess of levels specified in Table 3.

Table 3: Limits for heavy metal in ginger garlic paste

S/No	Characteristic	Maximum limit (mg/kg)	Method of test
1	Arsenic	0.2	TZS 1502
2	Lead	0.3	TZS 268
3	Mercury	0.1	TZS 1501

7.2 Pesticides Residues

Ginger garlic paste shall comply with those maximum pesticide residue limits established by the Codex Committee on Pesticide Residues for this commodity.

7.3 Aflatoxin

Ginger garlic paste shall not have more than 5 ppb for Aflatoxin B1 and 10 ppb for total aflatoxin when tested according to TZS 799.

8 Packing, marking and labelling

8.1 Packing

Ginger garlic paste shall be packed in clean, sound and dry food grade containers made of a material which does not affect the safety and quality of the product but protects it from light and from the entrance of moisture.

8.2 Marking and labelling

8.2.1 Ginger garlic paste shall also be packed and labeled in accordance with the requirements prescribed in TZS 538.

8.2.2 The following particulars shall legibly and indelibly be marked or labeled on each bag/container:

- a) name of the product, 'Ginger garlic paste' or 'Garlic ginger paste'
- b) Trade name or brand name, if any
- c) Name and address of the manufacturer and/or packer.
- d) Batch or lot number
- e) Date of packing/manufacturing
- f) Net weight
- g) Country of origin
- h) Expiry date
- i) Storage condition
- j) List of ingredients
- k) instruction for use

8.2.3 The language on the label shall be Kiswahili and/or English. A second language may be used depending on the designated market.

8.3 The containers may also be marked with TBS certification mark.

7. Sampling and test

7.1 Sampling

Ginger garlic paste shall be sampled in accordance with TZS 33.

7.2 Tests

Samples of ginger garlic paste shall be tested for conformity with the requirements of this standard specification by following the methods of physical, organoleptic, microbiological and chemical analysis.

NOTE: The TBS Mark of Quality may be used by manufacturers only under license from TBS. Particulars of conditions which the licenses are granted may be obtained from TBS offices.

Annex A
(Normative)

Determination of total insoluble pulp

Boil 20 g of sample with 100 mL distilled water for 30-40 min. Filter through dried and weighed filter paper. Wash with hot water. Dry paper at 100 °C to constant weight. From this weight subtract the weight of the filter paper. This gives the weight of total insoluble pulp.

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