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Dehydrated garlic — Specification

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Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

RS 371 was prepared by Technical Committee RSB/TC 019, *Spices, condiments and food additives*.

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

- 1) ISO 5560, *Dehydrated garlic — Specification*

The assistance derived from the above source is hereby acknowledged with thanks.

Committee membership

The following organizations were represented on the Technical Committee on Spices, condiments and food additives (RSB/TC 019) in the preparation of this standard.

Rwanda Standards Board (RSB) – Secretariat

Dehydrated garlic — Specification

1 Scope

This Draft Rwanda Standard specifies requirements, sampling and test methods for dehydrated garlic.

2 Normative references

The following 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.

AOAC 952.13, Arsenic in food. Silver diethyldithiocarbamate

AOAC 980.19, Tin in food. Atomic absorption spectrophotometric method

AOAC 999.10, *Lead, Cadmium, Zinc, Copper, and Iron in Foods*

ISO 5567, *Dehydrated garlic — Determination of volatile organic sulphur compounds*

ISO 7937, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of Clostridium perfringens — Colony-count technique*

ISO 927, *Spices and condiments — Determination of extraneous matter content*

ISO 928, *Spices and condiments — Determination of total ash*

ISO 930, *Spices and condiments — Determination of acid-insoluble ash*

ISO 939, *Spices and condiments — Determination of moisture content — Entrainment method*

ISO 941, *Spices and condiments — Determination of cold water soluble extract*

ISO 948, *Spices and condiments — Sampling*

RS CAC/RCP 1, *General principles of food hygiene — Code of practice*

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

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

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

RS 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*

RS ISO 16649-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 1: Colony-count technique at 44 degrees C using membranes and 5-bromo-4-chloro-3-indolyl Beta-D-glucuronide*

RSISO 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 standard, the following terms and definitions apply.

3.1

dehydrated garlic

product obtained on drying the sound cloves of garlic cultivars (*Allium sativum* L.) without any bleaching or precooking

3.2

dehydrated garlic slices

product obtained by cutting garlic cloves into slices and removing broken pieces smaller than 4 mm by sieving

3.3

dehydrated garlic, flakes or pieces

dehydrated garlic passing through a sieve of aperture size from 1.25 mm to 4 mm according to the case. The particles do not have any definite shape

3.4

dehydrated garlic grits

dehydrated garlic passing through a sieve of aperture size from 250 µm to 1.25 mm

3.5

powdered garlic

homogeneous product, 95 % of which passes through a sieve of aperture size 250 µm.

4 Presentation of dehydrated garlic

Dehydrated garlic may be classified into the following products:

- a) dehydrated garlic slices;
- b) dehydrated garlic flakes or pieces;
- c) dehydrated garlic grits; and
- d) powdered garlic.

5 Requirements

5.1 General requirements

Dehydrated garlic products shall comply with the following general requirements:

- a) the colour of the dehydrated garlic shall be characteristic of the cultivar used, that is, between white and pale cream;
- b) the product shall be practically free from scorched, toasted and baked particles;
- c) dried garlic, after rehydration, shall have a characteristic odour, free from foreign odours and off odours, such as those coming from mouldy, rancid, fermented or burnt particles; and
- d) dried garlic shall be free from live insects, and practically free from moulds, dead insects, insect fragments and rodent contamination.

5.2 Specific requirements

5.2.1 Dried garlic shall comply with the specific requirements specified in Table 1 when tested in accordance with test methods specified therein.

Table 1 — Specific requirements of dehydrated garlic

S/N	Parameter	Limits	Test method
i.	Moisture content, %, m/m, max.	8	ISO 939
ii.	Total ash, %, (m/m), on dry basis, max.	5.5	ISO 928
iii.	Acid-insoluble ash, %, (m/m) on dry basis, max.	0.5	ISO 930
iv.	Volatile organic sulfur compounds content, %, (m/m) on dry basis, min.	0.3	ISO 5567
v.	Cold-water-soluble extract, %, (m/m) on dry basis	70 - 90	ISO 941
vi.	Foreign matter, %, m/m, max.	0.5	ISO 927

5.2.2. Powdered garlic shall be free from preservatives, artificial colouring matter and flavouring agents. However, anti-caking agents listed below may be used to the maximum extent of 2.0 %.

- a) carbonates of calcium and magnesium;
- b) phosphate of calcium and magnesium;
- c) silicates of calcium, magnesium, aluminium or sodium or silicon dioxide; and
- d) myristates, palmitates or stearates of aluminium, ammonium, calcium.

5.3 Microbiological requirements

Dehydrated garlic shall conform to microbiological limits in Table 2 when tested in accordance with test methods specified therein.

Table 2 — Microbiological limits in dehydrated garlic

S/N	Parameter	Maximum limits	Test method
i.	Total viable count, CFU/g	10 ⁴	RS ISO 4833-1
ii.	<i>E. coli</i> , CFU/g	Absent	RS ISO 16649-1
iii.	<i>Clostridium perfringens</i> , CFU/g	Absent	ISO 7937
iv.	<i>Salmonella spp.</i> , CFU/25g	Absent	RS ISO 6579-1
v.	<i>Staphylococcus aureus</i> , CFU/g	Absent	RS ISO 6888-1
vi.	Yeast and moulds, CFU/g	500	RS ISO 21527-2

6 Contaminants

6.1 Heavy metals

The products covered by the provisions of this standard shall not contain heavy metals in excess of those given in Table 3 when tested in accordance with test methods specified therein.

Table 3 — Maximum limits for heavy metal contaminants

S/N	Parameter	Maximum limits (mg/kg)	Test method
i.	Arsenic	1	AOAC 952.13
ii.	Lead	5	AOAC 999.10
iii.	Copper	30	
iv.	Zinc	19	
v.	Tin	250	AOAC 980.19

6.2 Pesticide residues

The products covered by the provisions of this standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission.

7 Hygiene

Dehydrated garlic shall be prepared and handled in accordance with RS CAC/RCP 1.

8 Packaging

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

9 Labelling

In addition to the requirements in RS EAS 38, the following particulars shall be marked directly on each package or shall be marked on a label attached to the package:

- a) name of the product "Dehydrated garlic";
- b) type of the product "dehydrated garlic slices"; "dehydrated garlic flakes or pieces"; "dehydrated garlic grits"; or "powdered garlic";
- c) name and address of the manufacturer/packer;
- d) country of origin;
- e) net weight;
- f) expiry/best before date;
- g) date of packing;
- h) list of ingredients;
- i) batch number;
- j) storage instructions; and
- k) instructions for use.

10 Sampling

Sampling shall be done in accordance with ISO 948..

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