



## DRAFT EAST AFRICAN STANDARD

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Ready-to-eat porridge— Specification

EAST AFRICAN COMMUNITY

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## Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

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

The committee responsible for this document is Technical Committee EASC/TC 018, *Nutrition and Foods for Special Dietary Uses*.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

## Ready-to-eat porridge— Specification

### 1 Scope

1.1 This Draft East African Standard specifies the requirements, sampling and test methods for ready-to-eat porridge intended for human consumption. This also includes ready to drink and instant flours for porridges.

1.2 This standard cover both fermented and non-fermented ready to eat porridge

1.3 This standard does not cover composite flours and complimentary feeding meant for ages 6 months to 36 months

### 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 999.11, *Lead, Cadmium, Copper, Iron, and zinc in foods. Atomic absorption spectrophotometry after dry ashing*

EAS 104, *Alcoholic beverages —Methods of sampling and test*

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

EAS 900, *Cereals, pulses and their products — Sampling*

EAS 901, *Cereals, pulses and their products — Test methods*

ISO 5985, *Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*

ISO 7305, *Milled cereal products — Determination of fat acidity*

### 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <http://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1

##### Ready-to-eat porridge

Product made from cereals, legumes, roots and tubers or a combination processed and presented either for direct consumption as liquid or paste without further processing or as powder to be constituted with water and/or milk before consumption

Note to entry: Ready to eat also refers to ready to drink

**3.2 food grade packaging material**  
packaging material made of substances which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour or flavour to the product

**3.3 foreign matter**  
organic and inorganic materials (such as sand, soil, glass) other than extraneous matter in the designated product

**3.4 extraneous matter**  
organic matter originating from food plants and/or their products other than the designated product

## 4 Requirements

### 4.1 Ingredients

#### 4.1.1 Essential ingredients

Ready-to-eat porridge shall be prepared primarily from milled cereals, legumes, roots and tubers, or their combination complying with the relevant East African Standards or composite flour complying to EAS 782.

#### 4.1.2 Optional ingredients

Optional ingredients which may be added complying with relevant East African standards include but are not limited to:

- a) milk and milk products;
- b) eggs;
- c) fats and oils;
- d) fruits and vegetables;
- e) sugars (only in products to be consumed by persons older than 24 months).
- f) products containing honey or maple syrup (only in products to be consumed by persons older than 24 months).;
- g) cocoa (only in products to be consumed after nine months of age, and at a maximum level of 5 % m/m on a dry basis);
- h) nuts and oilseeds;
- i) only L (+) lactic acid producing cultures;
- j) fish;
- k) banana; and
- l) vitamins and minerals in accordance with CXG 10.

## 4.2 General requirements

Ready-to eat porridge shall be:

- a) free from extraneous matter and foreign matter;
- b) free from rancid and objectionable flavour;
- c) free from objectionable odour; and
- d) free from live insects.

## 4.3 Specific requirements

Ready-to-eat porridge shall comply with the requirements given in Table 1 when tested in accordance with test methods specified therein.

**Table 1 — Specific requirements for Ready-to-eat porridge**

S/N	Characteristics	Requirement	Test method
1.	Dry matter %,m/m, minimum <sup>1</sup>	15	Annex A
2.	Ethanol <sup>1</sup> % v/v,	Not detectable	EAS 104
3.	Moisture content <sup>2</sup> % mm Max.	14	EAS 901
4.	Fat Acidity <sup>2</sup> on moisture free basis, mgKOH/100g, Max	80	ISO 7305
5.	Acid insoluble ash <sup>2</sup> on moisture free basis, % m/m Max	0.4	ISO 5985
<sup>1</sup> Not applicable to powder products			
<sup>2</sup> Not applicable to liquid, paste			

## 4.4 Antinutritional factors

**4.4.1** If soya flour is used as a component of the Ready-to-eat porridge:

- a) urease activity shall not exceed 0.3 mg N/g/min when tested in accordance with ISO 5506; and
- b) trypsin inhibitor activity shall not exceed 5 mg/g when tested in accordance with ISO 14902.

**4.4.2** If sorghum flour is used as a component of the Ready-to-eat porridge, the tannin content shall not exceed 0.3 % by mass on a dry matter basis, when tested in accordance with ISO 9648.

**4.4.3** If cassava is used as a component of the Ready-to-eat porridge, the total hydrocyanic acid content shall not exceed 2 mg/kg, when tested in accordance with EAS 744.

## 5 Food additives

Where Citric acid, stabilizers and thickeners are used, they shall be in accordance to CXS 192 for FC 13

## 6 Flavouring agents

Approved flavours (natural or synthetic) shall be used in accordance with CXG 66



## 7 Hygiene

7.1 Ready-to-eat porridge shall be produced, handled and stored in accordance with CXC 1.

7.2 Ready-to-eat porridge shall comply with microbiological limits given in Table 2 when tested in accordance with test methods specified therein

**Table 2 — Microbiological limits for Ready-to-eat porridge**

S/N	Microorganism	Maximum limit	Test method
1.	Coliforms, CFU/g	<10 <sup>a</sup>	ISO 4832
2.	Salmonella spp. in 25 g	Absent	ISO 6579-1
3.	Staphylococcus aureus, CFU/g	<10 <sup>a</sup>	ISO 6888-1
4.	Bacillus cereus, CFU/g	50	ISO 7932
5.	Yeasts and moulds, CFU/g	10 <sup>2</sup>	ISO 21527-2
6.	Clostridium botulinum, CFU/g (For products containing honey or maple syrup)	Absent	ISO/TS 17919

<sup>a</sup> less than 10 CFU means that it is not detectable in that sample hence may commonly be referred to as absent.

## 8 Contaminants

### 8.1 Pesticide residues

Ready-to-eat porridge shall comply with those maximum pesticide residue limits established by the Codex Alimentarius Commission.

### 8.2 Heavy metals

Ready-to-eat porridge shall not exceed heavy metal limits given in Table 3 when tested in accordance with test methods specified therein.

**Table 3 — Heavy metals limits in Ready-to-eat porridge**

S/N	Heavy metal	Maximum limit mg/kg	Test method
i.	Lead	0.2	AOAC 999.11
ii.	Cadmium	0.1	

### 8.3 Mycotoxins

Ready-to-eat porridge shall not exceed mycotoxins limits given in Table 4 when tested in accordance with test methods specified therein

**Table 4 — Mycotoxin limits for Ready-to-eat porridge**

S/N	Parameter	Maximum limit	Test method
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1.	Total aflatoxins, µg/kg	10	ISO 16050
2.	Aflatoxin B1, µg/kg	5	
3.	Fumonisin, mg/kg	2	AOAC 2001.04
4.	Ochratoxin A, µg/kg	5	ISO 15141
5.	Deoxynivalenol (DON), mg/kg	0.2	AOAC 986.18

## 9 Packaging

**9.1** Ready-to-eat porridge shall be packaged in food grade packaging materials which will safeguard the hygienic and product quality attributes.

**9.2** Each package shall be securely closed and easily re-closable during use where applicable.

## 10 Labelling

In addition to the requirements of EAS 38 and EAS 803, each package shall be legibly and indelibly labelled with the following:

- a) name of the product as “Ready-to-eat porridge” or “ready to drink porridge”;
- b) instructions for use;
- c) shelf life before and after opening the product.
- d) Allergen declaration i.e gluten, soy, milk

## 11 Nutrition and health claims

The product may have claims on nutrition and health. Such claims when declared shall comply with EAS 804 and EAS 805.

## 12 Sampling

Sampling shall be done in accordance with EAS 900.

## Annex A (normative)

### Determination of dry matter in porridge

#### A.1 Principle

To determine the dry matter content of porridge, calculate the percentage of water in the porridge and subtract that percentage from 100%:

#### A.2 Apparatus

A.2.1 Top pan balance

A.2.2 Analytical balance

A.2.3 Moisture dish

A.2.4 Hot air oven

#### A.3 Procedure

A.3.1 Weigh an empty moisture dish ( $M_0$ ). Add approximately 5g porridge to the moisture dish. Weigh the dish +the test portion before drying( $M_1$ )

A.3.2 Subtract the weight of the empty moisture dish ( $M_0$ ) from the total weight of moisture dish and test portion before drying( $M_1$ ) to get the weight of the test portion before drying. ( $M_1 - M_0$ )

A.3.3 In a water bath, evaporate the water present in the test portion. Dry the test portion in a Hot air oven at 105°C for 3-4 hours. Cool the test portion in a desiccator. Weigh the moisture dish and test portion after drying ( $M_2$ )

#### A.4 Calculations

Calculate the dry matter content using the following formula:

Dry matter content (%) =  $100\% - \left\{ \frac{M_1 - M_2}{(M_1 - M_0)} \right\} \times 100$

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