



FDEAS 95:2011
ICS 67.060

FINAL DRAFT EAST AFRICAN STANDARD

Sorghum flour — Specification

EAST AFRICAN COMMUNITY

Foreword

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

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. 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 procedures of the Community.

Article 15(1) of the EAC SQMT Act, 2006 provides that "Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose".

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.

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Introduction

Sorghum flour is used mainly for porridge and as a substitute for special dietary food. In recent years its consumption has greatly increased leading to commercial production. This standard has therefore been developed to protect the consumer from fraud and adulteration that may occur during production that may be hazardous to health or intended to cheat the consumers as well guiding the manufacturer in production. The revision to this standard addressed the compositional requirements as a result of changes such as improved varieties that have been released to the market.

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Sorghum flour — Specification

1 Scope

- 1.1 This East African Standard specifies requirements and methods of sampling and test for sorghum flour for human consumption.
- 1.2 This standard does not apply to grits or meal obtained from *Sorghum bicolor* (L) Moench.

2 Normative references

The following normative documents contain provisions which, through reference in this text constitute provisions of this East African Standard.

EAS 38, Labelling of prepackaged foods — Specification

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

EAS 103, Schedule for permitted food additives

EAS 41, Fruits, vegetables and derived products

EAS 74, Methods of test for animal feedstuffs

EAS 82, Milled cereal products — Methods of test

ISO 13690, Cereals, pulses and milled products — Sampling of static batches

EAS 217, Methods for the microbiological examination of foods

ISO 9648, Sorghum – Determination of tannin

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

CODEX Stan 193, Codex general Standards for contaminants and toxins in Food and Feed

3 Terms and definitions

For the purpose of this East African Standard, the following definition shall apply

3.1

Sorghum flour

product destined for human consumption which is obtained from sorghum grains (*Sorghum bicolor* (L.) Moench) through a process of milling during which the grain is cleaned, and the endosperm is reduced to a powder.

4 Quality Requirements

4.1 Raw materials

The sorghum from which the flour is obtained shall be suitably decorticated and of sound quality, free from sand, have characteristic odour and flavour complying with the relevant East African Standards

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4.2 General requirements

4.2.1 Sorghum flour shall be safe and suitable for human consumption.

4.2.2 Sorghum flour shall be free from abnormal flavours, odours, and living insects.

4.2.3 Sorghum flour shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

4.2.4 All processing of the sorghum including drying milling or other treatment of the sorghum, intermediate milling products and the milled sorghum flour shall be carried out in a manner that:

- a) minimizes loss of nutritive value, particularly protein quality;
- b) avoids undesirable changes in technological properties of the sorghum flour;
- c) avoids having unground grains and hull in the flour.

4.3 Specific requirements

4.3.1 Particle size

Using a standard method of sifting, not less than 85 per cent of the flour shall pass through a sieve of mesh diameter 1 mm for 'medium' flour and 0.5 mm for 'fine' flour.

4.3.2 Sorghum flour shall conform to the specific requirements in Table 1

Table 1 — Specific requirements

Characteristic	Level	Method of test
Moisture content, per cent max. m/m	13.0	EAS 82
Crude ash content, per cent max.	1.5	EAS 82
Acid insoluble ash, per cent max.	0.40	EAS 82
Protein content, per cent max. (Nx5.7)	8.5	EAS 74
Crude fat content, per cent max.	4.7	EAS 74
Fibre content, per cent max.	2.5	EAS 82
Tannin content %m/m max.	0.3	ISO 9648
Total Aflatoxin (AFB1+AFB2+AFG1 +AFG2)), ppb max	10	ISO 16050
Aflatoxin B1 only, ppb max	5	
Fumonisin ppm max	2	

5 Food additives

The product shall contain only permitted additives complying with EAS 103.

6 Contaminants

6.1 Heavy metals

Sorghum flour shall comply with those maximum limits for heavy metals established by the Codex Alimentarius Commission for this commodity.

6.2 Pesticide residues

Sorghum flour shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this commodity.

NOTE Where the use of certain pesticides is prohibited by some Partner States, then it shall be notified to all Partner States accordingly.

6.3 Mycotoxins

Sorghum flour shall comply with those maximum mycotoxin limits established by the Codex Alimentarius Commission for this commodity. The sorghum flour shall not exceed total aflatoxin of 10 ppb and 5 ppb for aflatoxin B1 when tested in accordance with ISO 16050.

7 Hygiene

7.1 Sorghum flour shall be produced, prepared and handled in accordance with the provisions of appropriate sections of EAS 39

7.2 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

7.3 The product shall be free from pathogenic micro-organisms and shall comply with microbiological limits in Table 2.

Table 2 — Microbiological limits

Sl. No.	Micro-organism	Maximum limit	Methods of test
(1)	Total aerobic count per g	10^5	EAS 217
(11)	<i>E. Coli</i> per 1 g	Not detectable	EAS 217
(III)	<i>Salmonella</i> per 25 g	Not detectable	EAS 217
(iv)	Yeast and Moulds cfu/g	10^4	EAS 217
(V)	<i>S.aureus</i> per 25 g	Not detectable	EAS 217

8 Packaging

8.1 Sorghum flour shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

8.2 The containers, including packaging material, shall be food grade.

8.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

9 Labelling

In addition to the requirements in EAS 38, each package shall be legibly and indelibly marked with the following:

- i) product name as "Sorghum flour" and the terms 'Fine' or 'Medium', in accordance with 4.3.1, shall appear in close proximity to the name of the food.
- ii) name, address and physical location of the manufacturer/ packer/importer;

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- iii) lot/batch/code number;
- iv) net weight, in kg;

NOTE EAC Partner States are signatories to the International Labour Organizations (ILO) for maximum package weight of 50kg where human loading and offloading is involved.

- v) the declaration “Food for Human Consumption”;
- vi) storage instruction as “Store in a cool dry place away from any contaminants”;
- vii) Date of manufacture;
- viii) expiry date;
- ix) instructions on disposal of used package;
- x) country of origin;

10 Methods of sampling

Sampling shall be done in accordance with the ISO 13690.

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