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## **DRAFT EAST AFRICAN STANDARD**

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**Sorghum flour — 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.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

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.

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.

*EAS 95 was prepared by Technical Committee EAS/ TC 014, Cereals and pulses.*

*This second/third/... edition cancels and replaces the first/second/... edition (EAS nnn-n:19xx), [clause(s) / subclause(s) / table(s) / figure(s) / annex(es)] of which [has / have] been technically revised.*

## Sorghum flour — Specification

### 1 Scope

This Draft East African Standard specifies requirements, methods of sampling and test for sorghum flour obtained from decorticated sorghum grains (*Sorghum bicolor* (L.) Moench.) intended for human consumption. It does not apply to grits or meal obtained from sorghum.

### 2 Normative references

The following referenced documents are indispensable for the application 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.

*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 standard for contaminants and toxins in food and feed*

### 3 Terms and definitions

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

#### 3.1

##### **sorghum flour**

product obtained from sorghum grains (*Sorghum bicolor* (L.) Moench) through a process of milling

#### 3.2

##### **food grade container**

container which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product

**3.3**

**foreign matter**

organic or inorganic material other than sorghum flour

**3.4**

**filth**

impurities of animal origin including dead insects

**4 Requirements**

**4.1 General requirements**

**4.1.1 Sorghum grain**

The sorghum from which the flour is obtained shall conform to EAS 757.

**4.1.2 Sorghum flour shall be**

- a) safe and suitable for human consumption
- b) of characteristic flavours, odours,
- c) free from parasite and living insects
- d) free from filth

**4.2 Specific requirements**

**4.2.1 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.

**4.2.2 Sorghum flour shall conform to the specific requirements in Table 1.**

**Table 1 — Specific requirements**

<b>S/No.</b>	<b>Characteristic</b>	<b>Level</b>	<b>Methods of test</b>
i)	Moisture content, %max. m/m	13.5	EAS 82
ii)	Crude ash content, %max.	1.5	EAS 82
iii)	Acid insoluble ash, %max.	0.40	EAS 82
iv)	Crude fat content, %max.	4.7	EAS 74
v)	Fibre content, %max.	2.5	EAS 82
vi)	Tannin content % m/m max.	0.3	ISO 9648

**5 Food additives**

The product shall contain only permitted additives conforming to Codex Stan 192.

## 6 Hygiene

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

7.3 The product conform to the microbiological limits specified in Table 2.

**Table 2 — Microbiological limits**

S/No.	Micro-organism	Maximum limit	Methods of test
i)	Total aerobic count per g	10 <sup>5</sup>	ISO 4832
ii)	<i>E. Coli</i> per 1 g	Absent	ISO 16649-1
iii)	<i>Salmonella</i> per 25 g	Absent	ISO 6579
iv)	Yeast and Moulds cfu/g	10 <sup>4</sup>	ISO 7954
v)	<i>S. aureus</i> per 25 g	10 <sup>2</sup>	ISO 6888-1

## 7 Contaminants

### 7.1 Heavy metals

Sorghum flour shall comply with those maximum limits for heavy metals established by the Codex Alimentarius Commission as specified in Table 3.

**Table 3 — Heavy metals limits**

S/No.	Heavy metal	Limits (mg/kg)	Test methods
i)	Arsenic (As)	0.1	ISO 27085
ii)	Lead (Pb)	0.2	ISO 6633
iii)	Cadmium (cd)	0.1	ISO 6561-1 or ISO 6561-2

### 7.2 Pesticide residues

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

### 7.3 Mycotoxins

Sorghum flour shall comply with those maximum mycotoxin limits established by the Codex Alimentarius Commission as specified in Table 4.

**Table 4 — Mycotoxins limits**

S/No.	Mycotoxins	Limits	Test methods
i)	Total aflatoxins, µg/kg, max	10	ISO 16050.
ii)	Aflatoxins B1, µg/kg, max	5	
iii)	Fumonisin, µg/kg, max	2000	AOAC 2001.04



## 8 Weights and measures

The fill and the weight of the product shall conform to weights and measures regulations of the importing partner states.

## 9 Packaging

Sorghum flour shall be packaged in food grade containers. When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

## 10 Labelling

Labelling shall be done in accordance with EAS 38. At the minimum, the following information shall be displayed:

- i) product name as "Sorghum flour" and the terms "Fine" or "Medium",
- ii) name, address and physical location of the manufacturer/ packer/importer;
- iii) lot/batch/code number;
- iv) net weight, in kg;
- v) the declaration "Food for Human Consumption";
- vi) storage instruction vii) Date of manufacture;
- vii) expiry date;
- viii) instructions on disposal of used package;
- ix) country of origin;

## 11 Methods of sampling

Sampling shall be done in accordance with the ISO 24333.

## Bibliography

CODEX STAN 173-1989 (Rev. 1 - 1995), *CODEX Standard for sorghum flour*



