

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

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STANDARD FOR SORGHUM FLOUR

CXS 173-1989

Adopted in 1989. Revised in 1995. Amended in 2019.

1. SCOPE

- 1.1 This Standard applies to sorghum flour destined for direct human consumption as defined in Section 2.1 below.
- 1.2 This Standard does not apply to grits or meal obtained from *Sorghum bicolor* (L.) Moench.

2. DESCRIPTION

Sorghum flour is the product obtained from grains of *Sorghum bicolor* (L.) Moench through a process of industrial milling during which the seed coat is removed and the germ is removed to a large extent and the endosperm is comminuted to a suitable degree of fineness.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality factors – general

- 3.1.1 Sorghum flour shall be safe and suitable for human consumption.
- 3.1.2 Sorghum flour shall be free from abnormal flavours, odours, and living insects.
- 3.1.3 Sorghum flour shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 Quality factors – specific

3.2.1 **Moisture content** 15.0% m/m max.

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage.

3.2.2 **Tannin content**

The tannin content of sorghum flour shall not exceed 0.3% on a dry matter basis.

4. CONTAMINANTS

4.1 Heavy metals

Sorghum flour shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 Pesticide residues

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

4.3 Mycotoxins

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

5. HYGIENE

- 5.1 It is recommended that the product covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *General Principles of Food Hygiene* (CXC 1-1969), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.
- 5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.
- 5.3 When tested by appropriate methods of sampling and examination, the product:
 - shall be free from micro-organisms 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 micro-organisms in amounts which may represent a hazard to health.

6. PACKAGING

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

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

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

7. LABELLING

In addition to the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985), the following specific provisions apply:

7.1 Name of the product

The name of the product to be shown on the label shall be "sorghum flour".

7.2 Labelling of non-retail containers

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. METHODS OF ANALYSIS AND SAMPLING

For checking the compliance with this Standard, the methods of analysis and sampling contained in the *Recommended Methods of Analysis and Sampling* (CXS 234-1999) relevant to the provisions in this Standard shall be used.

ANNEX

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

Factor/Description	Limit	Method of analysis
ASH	MIN: 0.9% on a dry matter basis – and – MAX: 1.5% on a dry matter basis	AOAC 923.03 ICC 104/1 – Method for the determination of ash in cereals and cereal products (Ashing at 900°C) (Type I Method) – or – ISO 2171:1980 – Cereals, pulses, and derived products – Determination of ash
PROTEIN (N x 6.25)	MIN: 8.5% on a dry matter basis	ICC 105/1 (1986) – Method for the Determination of Crude Protein in Cereals and Cereal Products for Food and for Feed using selenium copper catalyst (Type II method) – or – ISO 1871:1975
CRUDE FAT	MIN: 2.2% on a dry matter basis – and – MAX: 4.7% on a dry matter basis	AOAC 945.38F; 920.39C – or – ISO 5986:1983 – Animal feedstuffs – Determination of Diethyl Ether Extract
CRUDE FIBRE	MAX: 1.8% on a dry matter basis	ICC 113:1972 – Determination of Crude Fibre Value (Type I method) – or – ISO 6541:1981 – Agricultural food products – Determination of Crude Fibre Content – Modified Scharrer Method
COLOUR	RANGE: 18 to 30 units	Colorimetric Method of Kent Jones using Martin color grader. In “Modern Cereal Chemistry”, 6th ed. 1967, edited by Kent Jones-Amos, published by Food Trade Press Ltd., London, U.K. (Type I Method)
PARTICLE SIZE (GRANULARITY)	MIN: 100% of flour shall pass through a sieve the dimensions of the mesh being diameter of 0.5 mm for “fine” flour and a diameter of 1 mm for “medium” flour	AOAC 965.22 (Type I method with sieve specifications as in ISO 3310/1 – 1982 Test sieves)