

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

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STANDARD FOR WHEAT FLOUR

CXS 152-1985

Adopted in 1985. Revised in 1995. Amended in 2016, 2019, 2021, 2023.

2023 Amendments

Following decisions taken at the Forty-sixth Session of the Codex Alimentarius Commission in December 2023, amendments were made in the Annex.

1. SCOPE

This standard applies to wheat flour for direct human consumption prepared from common wheat, *Triticum aestivum* L., or club wheat, *Triticum compactum* Host., or mixtures thereof, which is pre-packaged ready for sale to the consumer or destined for use in other food products.

It does not apply:

- to any product prepared from durum wheat, *Triticum durum* Desf., singly or in combination other wheat;
- to whole meal, whole-wheat flour or semolina, farina milled from common wheat, *Triticum aestivum* L., or club wheat, *Triticum compactum* Host., or mixtures thereof;
- to wheat flour destined for use as a brewing adjunct or for the manufacture of starch and/or gluten;
- to wheat flour for non-food industrial use; or
- flours whose protein content have been reduced or which have been submitted after the milling process to a special treatment other than drying or bleaching and/or to which have been added other ingredients than those mentioned under Section 3.2.2 and Section 4.

2. DESCRIPTION

2.1 Product definition

Wheat flour is the product prepared from grain of common wheat, *Triticum aestivum* L., or club wheat, *Triticum compactum* Host., or mixtures thereof, by grinding or milling processes in which the bran and germ are partly removed and the remainder is comminuted to a suitable degree of fineness.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality factors – general

Wheat flour and any added ingredients shall be safe and suitable for human consumption.

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

Wheat 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* 15.5 percent 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 *Optional ingredients*

The following ingredients may be added to wheat flour in amounts necessary for technological purposes:

- malted products with enzymatic activity made from wheat, rye or barley;
- vital wheat gluten; and
- soybean flour and legume flour.

4. FOOD ADDITIVES

4.1 Enzymesⁱ

Maximum level in finished product

Fungal amylase from <i>Aspergillus oryzae</i>	GMP
Proteolytic enzyme from <i>Aspergillus oryzae</i>	GMP

4.2 Food additives

Flour treatment agents, carriers and glazing agents used in accordance with Table 1 and Table 2 of the *General standard for food additives* (CXS 192-1995)¹ in food category 06.2.1 (Flours) are acceptable for use in foods conforming to this standard.

ⁱ Hold for further discussion.

5. CONTAMINANTS

5.1 Heavy metals

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

5.2 Pesticide residues

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

5.3 Mycotoxins

Wheat flour shall comply with those maximum mycotoxin limits established by the Codex Alimentarius Commission (CAC) for this commodity.

6. HYGIENE

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)² and other codes of practice recommended by the CAC which are relevant to this product.

To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

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. PACKAGING

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

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.

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

8. LABELLING

In addition to the requirements of the *General standard for the labelling of pre-packaged foods* (CXS 1-1985)³ the following specific provisions apply:

8.1 Name of the product

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

8.2 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.

9. 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)⁴ 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	Buyer preference	Refer to Section 9
FAT ACIDITY	Max: 70 mg per 100 g flour on a dry matter basis expressed as sulphuric acid – or – Not more than 50 mg of potassium hydroxide shall be required to neutralize the free fatty acids in 100 grammes flour on a dry matter basis	Refer to Section 9
PROTEIN (5.7)	Min: 7.0% on a dry weight basis	Refer to Section 9
NUTRIENTS i. vitamins ii. minerals iii. amino acids	Conform with legislation of the country in which the product is sold	None defined
PARTICLE SIZE (GRANULARITY)	98% or more of flour shall pass through a 212 micron (No. 70 sieve)	Refer to Section 9

NOTES

¹ FAO and WHO. 1995. *General standard for food additives*. Codex Alimentarius Standard, No. CXS 192-1995. Codex Alimentarius Commission. Rome.

² FAO and WHO. 1969. *General principles of food hygiene*. Codex Alimentarius Code of Practice, No. CXC 1-1969. Codex Alimentarius Commission. Rome.

³ FAO and WHO. 1985. *General standard for the labelling of pre-packaged foods*. Codex Alimentarius Standard, No. CXS 1-1985. Codex Alimentarius Commission. Rome.

⁴ FAO and WHO. 1999. *Recommended methods of analysis and sampling*. Codex Alimentarius Standard, No. CXS 234-1999. Codex Alimentarius Commission. Rome.