

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

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STANDARD FOR DURUM WHEAT SEMOLINA AND DURUM WHEAT FLOUR

CXS 178-1991

Adopted in 1991. Revised in 1995. Amended in 2019, 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

- 1.1 This standard applies to durum wheat semolina, including whole durum wheat semolina and durum wheat flour for direct human consumption prepared from durum wheat (*Triticum durum* Desf.) which are pre-packaged ready for sale to the consumer or destined for use in other food products.
- 1.2 It does not apply:
- to any product prepared from common wheat (*Triticum aestivum* L.) or club wheat (*Triticum compactum* Host.) or mixtures thereof, or to mixtures of these wheats in combination with durum wheat (*Triticum durum* Desf.)
 - to durum wheat flour or semolina for non-food industrial or animal feed use.

2. DESCRIPTION

2.1 Product definition

Durum wheat semolina and durum wheat flour are the products prepared from grain of durum wheat (*Triticum durum* Desf.) by grinding or milling processes in which the bran and germ are essentially removed and the remainder is comminuted to a suitable degree of fineness. Whole durum wheat semolina is prepared by a similar comminuting process, but the bran and part of the germ are retained.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality factors – general

- 3.1.1 Durum wheat semolina and durum wheat flour and any added nutrients shall be safe and fit for human consumption.
- 3.1.2 Durum wheat semolina and durum wheat flour shall be free from abnormal flavours, odours, and living insects.
- 3.1.3 Durum wheat semolina and durum 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** 14.5 percent m/m max

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

4. CONTAMINANTS

4.1 Heavy metals

Durum wheat semolina and durum wheat flour shall be free from heavy metals in amounts which may represent a hazard to health.

4.2 Pesticide residues

Durum wheat semolina and durum wheat flour shall comply with those maximum residue limits established by the Codex Alimentarius Commission (CAC) for this commodity.

4.3 Mycotoxins

Durum wheat semolina and durum wheat flour shall comply with those maximum mycotoxin limits established by the CAC 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),¹ and other codes of practice recommended by the CAC 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 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.

6. PACKAGING

6.1 Durum wheat semolina and durum wheat 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 pre-packaged foods* (CXS 1-1985),² the following specific provisions apply:

7.1 Name of the product

The name of the product to be shown on the label shall be “durum wheat semolina”, “whole durum wheat semolina”, or “durum wheat 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)³ 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 | | Refer to Section 8 |
| ■ durum wheat semolina | Max: 1.3% on a dry basis | |
| ■ whole durum wheat semolina | Max: 2.1% on a dry basis | |
| ■ durum wheat flour | Max: 1.75% on a dry basis | |
| PROTEIN (N x 5.7) | | Refer to Section 8 |
| ■ durum wheat semolina | Min: 10.5% on a dry basis | |
| ■ whole durum wheat semolina | Min: 11.5% on a dry basis | |
| ■ durum wheat flour | Min: 11.0% on a dry basis | |
| NUTRIENTS | Conform with legislation of the country in which the product is sold | None defined |
| ■ vitamins | | |
| ■ minerals | | |
| ■ amino acids | | |
| PARTICLE SIZE | | None defined |
| ■ durum wheat semolina | Max: 79% shall pass through a 315 micron silk gauze or man-made textile sieve | |
| ■ durum wheat flour | Min: 80% shall pass through a 315 micron silk gauze or man-made textile sieve | |

NOTES

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

² FAO and WHO. 1985. *General standard for the labelling of pre-packaged foods*. Codex Alimentarius Standard, No. CXS 1-1985. Codex Alimentarius Commission. Rome.

³ FAO and WHO. 1999. *Recommended methods of analysis and sampling*. Codex Alimentarius Standard, No. CXS 234-1999. Codex Alimentarius Commission. Rome.