

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
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World Health
Organization

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Agenda Item 8

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FOOD ADDITIVES

Fifty-Fifth Session

REPLY TO COMMENTS RECEIVED CONTAINED IN CX/FA 25/55/11 ADD.1

(Prepared by China, France and Türkiye, Chair and co-Chairs of the Electronic Working Group on baker's yeast, based on comments received contained in CX/FA 25/55/11 Add.1)

Background

This document was prepared by Chairs of baker's yeast EWG to consider the report of the EWG and comments received contained in the document CX/FA 25/55/11 Add.1. The proposed draft revision to the standard is hereby attached as Annex I.

Considerations and Conclusions

The following changes are proposed:

2.1 PRODUCT DEFINITION

- 2.1.1 Baker's yeast** refers to a type of unicellular fungus ~~typically~~ belonging to the species of *Saccharomyces cerevisiae*. It is produced by the multiplication of pure strains and is used as a biological leavening agent in bakery applications, with the main function of producing carbon dioxide and flavors. It is not a ready-to-eat product.

The use of the word [typically] in the part 2.1 'Product definition' implies that other species of yeast than *S. cerevisiae* could be covered by the standard. Currently, baker's yeast produced and traded globally is only obtained from *S. cerevisiae* strains. For safety reasons, it is not appropriate to use the term in brackets to broadly expand the scope to allow the use of other yeast species. The species *S. cerevisiae* has a long history of safe use, but other yeast species cannot be assumed to be harmless in general, some can even be pathogenic. Therefore, we deleted [typically].

- 2.1.3 Dry yeast is a type of baker's yeast, which is** obtained by removing water from fresh yeast and then drying to a low water content to maintain a low metabolic activity.

For consistency within 2.1 terms.

2.2.1 FRESH YEAST

Fresh yeast is a milky white to yellowish brown solid or liquid with a ~~unique~~ smell **typical for yeast** and may be in three major forms.

2.2.2 DRY YEAST

Dry yeast is an ivory-coloured particle or granule, with a ~~unique~~ smell **typical for yeast**. Dry yeast may be classified into two types.

The definition of both fresh and dry yeasts as having 'unique smell' is ambiguous, it can't characterise the smell of baker's yeast. Therefore, the odors of fresh and dry yeasts have been modified to 'typical for yeast'.

3.1 ESSENTIAL COMPOSITION

For the production of this document, the following composition shall apply.

(a) Yeast as defined in Section 2.

(b) Other ingredients as appropriate. The commodity standards need to mention all the ingredients used in the products. There are vegetable oils or other ingredients used in dry yeast in commercially products,

mainly to emulsify and protect the yeast. This products may not be recognized as conforming to this standard, as the standard only mentions yeast as an ingredient (or composition). Therefore, we added this part.

3.2 QUALITY FACTORS

~~[3.2.3 Nitrogen content]~~

~~[Nitrogen content on dry matter typically has a value of 8.0% ± 1.5% for fresh baker's yeast and 7.5% ± 1.5% for dry baker's yeast.]~~

The Procedural Manual indicates that quality factors should be limited to those essential for the designation, definition or composition of the product (section 91), and further specifies these should be with the object of preventing fraud. Nitrogen content or crude protein may not provide a measure of the essential composition. Certainly, yeast may have their characteristic crude protein content, fat, oligosaccharides, etc.; but for this food ingredient purpose these parameters may not be significant/relevant, and it does not reflect the yeast's leavening capacity. Therefore, we removed this indicator.

6. FOOD HYGIENE

~~[6.3 Saccharomyces cerevisiae used as starter cultures should be harmless, not GMO microorganisms.]~~

The possibility of using biotechnology in *S. cerevisiae* in the production of food has been acknowledged. The scope of the standard sets out Baker's yeast as a food ingredient, and therefore the food safety risk assessment principles set out by Codex should be applicable. And that any issues related to the use of biotechnology should respect the guidelines already established in CXG 44-2003, CXG 46-2003, and CXG 76-2011. Therefore, it is proposed that this subsection be deleted.

9. METHODS OF ANALYSIS AND SAMPLING

Quality factors Provisions	Commodity	Analysis Method	Principle	Type
Moisture	<u>Fresh yeast</u>	AOAC 961.06	Gravimetry	I
Moisture	<u>Dry yeast</u>	AOAC 960.18		I
pH	<u>Liquid yeast / cream yeast</u>	ISO 11289	Electrometry	I
[Nitrogen content]		[ISO 1871]	[Titrimetry, Kjeldahl]	[IV]

The table has been modified in accordance with the comments of CCMAS forwarded by the Codex secretariat and correspondingly the method for the detection of nitrogen content has been deleted

ANNEX 1**PROPOSED DRAFT STANDARD FOR BAKER'S YEAST**

(Changes following adoption with CRD comments are presented as **bold-underline** additions and ~~strike through~~ deletions)

1. SCOPE

This standard applies to baker's yeast, as defined in Section 2, for direct sale to the consumer and for food manufacture. Baker's yeast is a food ingredient, and used in the manufacturing and production of baked goods.

2. DESCRIPTION**2.1 PRODUCT DEFINITION**

2.1.1 Baker's yeast refers to a type of unicellular fungus—~~typically~~—belonging to the species of *Saccharomyces cerevisiae*. It is produced by the multiplication of pure strains and is used as a biological leavening agent in bakery applications, with the main function of producing carbon dioxide and flavors. It is not a ready-to-eat product.

2.1.2 Fresh yeast is a type of baker's yeast with high moisture content, which is obtained by separation and other processes such as compression.

2.1.3 Dry yeast **is a type of baker's yeast, which is** obtained by removing water from fresh yeast and then drying to a low water content to maintain a low metabolic activity.

2.2 TYPES

According to product appearance, baker's yeast shall be classified in two types:

2.2.1 FRESH YEAST

Fresh yeast is a milky white to yellowish brown solid or liquid with a ~~unique~~ smell **typical for yeast** and may be in three major forms:

- (a) Block yeast or compressed yeast, which shall be in the form of a block. The texture or consistency shall be characterized by high plasticity, permitting kneading and deformation without breakage, or shall be friable, breaking easily into small fragments.
- (b) Granulated yeast or crumbled yeast, which shall be in the form of small granules.
- (c) Liquid yeast or cream yeast, which shall be a liquid suspension of yeast cells in water with a cream-like texture.

2.2.2 DRY YEAST

Dry yeast is an ivory-coloured particle or granule, with a ~~unique~~ smell **typical for yeast**. Dry yeast may be classified into two types.

- (a) The active dry yeast is rehydrated to reactivate it in lukewarm water before use. The particles are rod-shaped or spherical in appearance, with a diameter of 0.2 mm - 3 mm.
- (b) The instant yeast or instant active dry yeast is used in a way that can be added directly to the flour during mixing without a rehydration step in water. The product consists of porous cylindrical particles with a diameter of about 0.5 mm and length up to a few millimeters.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS**3.1 ESSENTIAL COMPOSITION**

For the production of this document, the following composition shall apply.

- (a) Yeast as defined in Section 2.

(b) Other ingredients as appropriate.

3.2 QUALITY FACTORS**3.2.1 MOISTURE**

The moisture content of fresh yeast and dry yeast has a wide range, depending on the formulation of the product—block yeast, granulated yeast, liquid yeast and the requirements for fermentation performance and consistency/plasticity. It shall comply with the requirements of Table 1.

Table 1

Types	Moisture (% , w/w)
Block yeast /compressed yeast	61-74
Granulated yeast / crumble yeast	60-72 [60-70]
Liquid yeast / cream yeast	71-86
Active dry yeast/ instant dry yeast	2-10

3.2.2 pH

This measurement of the pH value is required primarily for liquid yeast or cream yeast. Typical pH values range from 3 to 7.5.

[3.2.3 Nitrogen content]

~~[Nitrogen content on dry matter typically has a value of 8.0% ± 1.5% for fresh baker's yeast and 7.5% ± 1.5% for dry baker's yeast.]~~

4. FOOD ADDITIVES

Antioxidants and emulsifiers used in accordance with Tables 1 and 2 of the *General Standard for Food Additives* in food category 12.8 (yeast and like products) or **[additives]** listed in Table 3 of the GSFA are acceptable for use in foods conforming to this standard.

5. CONTAMINANTS

The products covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food And Feed* (CXS 193- 1995).

6. FOOD HYGIENE

- 6.1** It is recommended that the products 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 relevant Codex texts such as codes of hygienic practice and codes of practice.
- 6.2** The products shall comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related for Foods* (CXG 21-1997).

~~[6.3 *Saccharomyces cerevisiae* used as starter cultures should be harmless, not GMO microorganisms.]~~

7. LABELLING

In addition to the provisions of the *General Standard for Labeling of Prepackaged Foods* (CXS 1-1985) the following specific provisions shall apply.

7.1 NAME OF THE PRODUCT

The name of the product shall be "Baker's yeast" or "Yeast" or be labelled with the corresponding name described in Section 2.2.

Other names may be used in accordance with the law and custom of the country in which the product is sold and in such a manner as to not mislead consumers.

7.2 LABELLING OF NON-RETAIL CONTAINERS

The labelling of non-retail containers should be in accordance with the *General Standard for the labelling of non-retail containers of foods* (CXS 346-2021).

8. PACKAGING, TRANSPORTATION AND STORAGE

Packaging shall not be a source of contamination or migration, and must protect the quality of the product during transport and storage. Packaging shall be odorless.

9. METHODS OF ANALYSIS AND SAMPLING¹

Quality factors Provisions	<u>Commodity</u>	<u>Analysis Method</u>	Principle	Type
Moisture	<u>Fresh yeast</u>	AOAC 961.06	Gravimetry	I
Moisture	<u>Dry yeast</u>	AOAC 960.18		I
pH	<u>Liquid yeast / cream yeast</u>	ISO 11289	Electrometry	I
<u>[Nitrogen content]</u>		<u>[ISO 1871]</u>	<u>[Titrimetry, Kjeldahl]</u>	<u>[IV]</u>

¹ The methods of analysis will be included in CXS 234- 1999 after endorsement by CCMAS and the following text shall replace the Table:

“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”.