

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

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STANDARD FOR KIMCHI

CXS 223-2001

Adopted in 2001. Amended in 2017, 2022.

2022 Amendment

Following decisions taken at the Forty-fifth Session of the Codex Alimentarius Commission in December 2022, amendments were made in Section 8.2 Labelling of non-retail containers.

1. SCOPE

This standard applies to the product known as kimchi, as defined in Section 2 below, which is prepared with Chinese cabbage as a predominant ingredient and other vegetables which have been trimmed, cut, salted and seasoned before fermentation.

2. DESCRIPTION

2.1 Product definition

Kimchi is the product:

- (a) prepared from varieties of Chinese cabbage, *Brassica pekinensis* Rupr.; such Chinese cabbages shall be free from significant defects, and trimmed to remove inedible parts, salted, washed with fresh water, and drained to remove excess water; they may or may not be cut into suitable sized pieces/parts;
- (b) processed with seasoning mixture mainly consisting of red pepper (*Capsicum annuum* L.) powder, garlic, ginger, edible allium varieties other than garlic, and radish. These ingredients may be chopped, sliced and broken into pieces; and
- (c) fermented before or after being packaged into appropriate containers to ensure the proper ripening and preservation of the product by lactic acid production at low temperatures.

2.2 Styles

The product should be presented in one of the following styles:

- (a) **whole** – whole Chinese cabbage;
- (b) **halves** – Chinese cabbages divided lengthwise into halves;
- (c) **quarters** – Chinese cabbages divided lengthwise into quarters; and
- (d) **slices or chips** – Chinese cabbage leaves cut into pieces of 1–6 cm in length and width.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Composition

3.1.1 Basic ingredients

- (a) Chinese cabbages and the seasoning mixture as described in Section 2; and
- (b) salt (sodium chloride).

3.1.2 Other permitted ingredients

- (a) fruits;
- (b) glutinous rice paste;
- (c) nuts;
- (d) salted and fermented seafood;
- (e) sesame seeds;
- (f) sugars (carbohydrate sweeteners);
- (g) vegetables other than those described in Section 2; and
- (h) wheat flour paste.

3.1.3 Other composition

(a) Mineral impurities	no more than 0.03% m/m
(b) Salt (sodium chloride) content	1.0~ 4.0% m/m
(c) Total acidity (as lactic acid)	not more than 1.0% m/m

3.2 Quality criteria

Kimchi shall have normal colour, flavour and odour and shall possess a texture characteristic of the product.

3.2.1 Other quality criteria

- (a) **Colour** – The product should have red colour originating from red pepper.
- (b) **Taste** – The product should have a hot and salty taste. It may also have a sour taste.
- (c) **Texture** – The product should be reasonably firm, crisp, and chewy.

4. FOOD ADDITIVES**4.1 Acidity regulators**

INS No.	Name of the food additive	Maximum level
269	Acetic acid	Limited by good manufacturing practices (GMP)
270	Lactic acid	
330	Citric acid	

4.2 Flavour enhancers

INS No.	Name of the food additive	Maximum level
621	Monosodium L-glutamate	Limited by GMP
627	Disodium 5'-guanylate	
631	Disodium 5'-inosinate	

4.3 Flavourings

Natural and synthetic flavourings	Limited by GMP
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4.4 Texturizers

INS No.	Name of the food additive	Maximum level
420	Sorbitol	Limited by GMP

4.5 Thickening and stabilizing agents

INS No.	Name of the food additive	Maximum level
407	Carrageenan (including furcellaran)	Limited by GMP
415	Xanthan gum	

5. CONTAMINANTS

- 5.1** The product 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).¹
- 5.2** The product covered by this standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

6. HYGIENE

- 6.1** 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)² and other relevant Codex texts such as codes of hygienic practice and codes of practice.
- 6.2** The product should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods* (CXG 21-1997).³

7. WEIGHTS AND MEASURES

7.1 Fill of container

7.1.1 Minimum drained weight

The drained weight of the final product, as a percentage of the indicated weight, should be not less than 80 percent by weight, calculated on the basis of the weight of distilled water at 20 °C which the sealed container will hold when completely filled. The drained weight of the final product as a percentage by the indicated weight shall not be less than 80 percent by weight.

8. LABELLING

The product covered by the provisions of this standard shall be labelled in accordance with the *General Standard for the Labelling of Pre-packaged Foods* (CXS 1-1985).⁴ In addition, the following specific provisions apply:

8.1 Name of the product

The name of the product shall be “Kimchi”. The style should be included in close proximity to the name of the product.

8.2 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).⁵

9. METHODS OF ANALYSIS AND SAMPLING

For checking compliance with this standard, the methods of analysis and sampling contained in the *Recommended Methods of Analysis and Sampling* (CXS 234-1999)⁶ relevant to the provisions in this standard shall be used.

NOTES

¹ FAO and WHO. 1995. *General Standard for Contaminants and Toxins in Food and Feed*. Codex Alimentarius Standard, No. CXS 193-1995. 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. 1997. *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods*. Codex Alimentarius Guideline, No. CXG 21-1997. Codex Alimentarius Commission. Rome.

⁴ FAO and WHO. 1985. *General Standard for the Labelling of Pre-packaged Foods*. Codex Alimentarius Standard, No. CXS 1-1985. Codex Alimentarius Commission. Rome.

⁵ FAO and WHO. 2021. *General Standard for the Labelling of Non-Retail Containers of Foods*. Codex Alimentarius Standard, No. CXS 346-2021. Codex Alimentarius Commission. Rome.

⁶ FAO and WHO. 1999. *Recommended Methods of Analysis and Sampling*. Codex Alimentarius Standard, No. CXS 234-1999. Codex Alimentarius Commission. Rome.