CODEX ALIMENTARIUS
INTERNATIONAL FOOD STANDARDS

Food and Agriculture Organization of the United Nations
World Health Organization

E-mail: codex@fao.org - www.codexalimentarius.org

REGIONAL STANDARD FOR NON-FERMENTED SOYBEAN PRODUCTS

CXS 322R-2015

Adopted in 2015. Amended in 2016, 2017.

1. SCOPE

This standard applies to products, as defined in Section 2, and offered for direct consumption, including for catering purposes, repacking or further processing if required.

2. DESCRIPTION

2.1 Product Definition

Non-fermented soybean products are the products, the main ingredients of which are the soybean and/or soy derivative(s) (e.g. soybean flour, soybean concentrates, soybean isolates or defatted soya) and waterwhich are produced without fermentation process[1].

2.2 Classification

2.2.1 *Soybean Beverages[2] and Related Products*

2.2.1.1 *Plain soybean beverage*

Plain soybean beverage is the milky liquid, prepared from soybeans with eluting protein and other components in hot/cold water or other physical means, without adding optional ingredients. Fibres can be removed from the products.

2.2.1.2 *Composite/ flavoured soybean beverages*

Composite/flavoured soybean beverages are the milky liquid, prepared by adding optional ingredients to plain soybean beverages. It includes products such as sweetened soybean beverages, spiced soybean beverages, salted soybean beverages.

2.2.1.3 *Soybean-based beverages*

Soybean-basedbeverages are the milky liquid products prepared by adding optional ingredients to soybean beverages, with lower protein content than composite/flavoured soybean beverages (2.2.1.2).

2.2.2 *Soybean Curd and Related Products*

2.2.2.1 *Semisolid soybean curd*

Semisolid soybean curd is the semisolid product in which soybean protein is coagulated by adding coagulant into the soybean liquidpreparation.

2.2.2.2 *Soybean curd*

Soybean curd is the solid product with higher water content, and is made from soybean liquid preparation and coagulated by adding coagulant.

2.2.3 *Compressed Soybean Curd*

Compressed soybean curd is partially dehydrated soybean curd, of which the water content is much lowerthan Soybean curd and has a chewy texture.

2.2.4 *Dehydrated Soybean Curd Film*

Dehydrated soybean curd film is obtained from the uncovered still surface of soybean liquidpreparation, with or without folding up, which will be dehydrated. It may be dipped in salt solution prior to dehydration.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Basic Ingredients

a) Soybean and/or soy derivative(s)

b) Water

[1] The products should be processed in an appropriate manner to reduce/eliminate antinutrient level in the products and prevent spoilage.

[2] In number of countries, these products are referred to as soybean milk.

3.2 Optional Ingredients

a) edible oil

b) sugars

c) salts

d) spices, seasoning and condiments

e) other ingredients as appropriate

3.3 Quality Criteria

The non-fermented soybean products shall have the characteristic flavour, odour, color and texture of the product. There are no visible foreign matters in the products.

3.4 Component Requirement

The non-fermented soybean products should comply with the requirements listed in Table 1.

Table 1

Type		**Moisture g/100g**	**Protein g/100g**
Soybean beverages and related products (2.2.1)	Plain soybean beverage (2.2.1.1)	-	≥ 2.0
	Composite/flavoured soybean beverages (2.2.1.2)	-	≥ 2.0
	Soybean-based beverages (2.2.1.3)	-	≥ 0.8 but < 2.0
Soybean curd and related product (2.2.2)	Semisolid soybean curd (2.2.2.1)	> 92.0	≥ 2.5
	Soybean curd (2.2.2.2)	≤ 92.0	≥ 3.5
Compressed soybean curd (2.2.3)		≤ 75.0	≥ 13.0
Dehydrated soybean curd film (2.2.4)		≤ 20.0	≥ 30.0

3.5 Classification of "Defectives"

Any products in minimal package that fail to meet the quality requirements, set out in Sections 3.3 and 3.4, shall be considered a “defective”.

3.6 Lot Acceptance

A lot can be considered as meeting the applicable quality requirements referred to in Sections 3.3 and 3.4, when the number of "defectives", defined in Section 3.5, does not exceed the acceptance number (c) of the appropriate sampling plan with an AQL of 6.5 (Annex I, II).

4. FOOD ADDITIVES

4.1 General Requirements

Only those additive functional classes indicated as technologically justified in Table 2 may be used for the product categories specified. Within each additive class, and where permitted according to the table, only those food additives listed may be used and only within the functions and limits specified.

In accordance with Section 4.1 of the Preamble to the *General Standard for Food Additives* (CXS 192-1995), additional additives may be present in non-fermented soybean products as a result of carry-over from soybean ingredients.

Table 2

Food additive/ functional class	Soybean beverages and related products (2.2.1)			Soybean curd and related products (2.2.2)		Compressed soybean curd (2.2.3)	Dehydrated soybean curd film (2.2.4)
	Plain Soybean beverage (2.2.1.1)	Composite/ flavoured soybean beverages (2.2.1.2)	Soybean-based beverages (2.2.1.3)	Semisolid soybean curd (2.2.2.1)	Soybean curd (2.2.2.2)		
Acidity regulators	-	X	X	X	X	X	-
Antioxidants	-	X	X	-	-	-	-
Colours	-	X	X	-	-	-	-
Emulsifiers	-	X	X	-	-	-	-
Firming Agents	-	-	-	X	X	X	-
Flavour enhancer	-	X	X	-	-	-	-
Preservatives	-	-	-	-	-	X	X
Stabilizers	-	X	X	-	X	-	-
Sweeteners	-	X	X	-	-	-	-

X= The use of food additives belonging to the functional class is technologically justified.

-= The use of food additives belonging to the functional class is not technologically justified.

4.2 Specific Food Additive Provisions

4.2.1 *Plain Soybean Beverage*

None permitted.

4.2.2 *Composite/ flavoured Soybean Beverages and Soybean-based Beverages*

Acidity regulators, antioxidants, colours, emulsifiers, flavour enhancer, stabilizers and sweeteners used in accordance with Tables 1, Table 2 and Table 3 of the *General Standard for Food Additives* (CXS 192-1995) in Food Category 06.8.1 are acceptable for use in this product. In addition, the following food additives may be used.

INS No.	Name of Food Additives	Maximum Level
Antioxidant		
304	Ascorbyl palmitate	500 mg/kg
307 a, b, c	Tocopherols	200 mg/kg
Colour		
100(i)	Curcumin	1 mg/kg
102	Tartarzine	300 mg/kg
110	Sunset yellow FCF	300 mg/kg
132	Indigotine	150 mg/kg
133	Brilliant blue FCF	100 mg/kg
141(i),(ii)	Chlorophylls and chlorophyllins, copper complexes	30 mg/kg, as copper
160a(i),a(iii),e,f	Carotenoids	500 mg/kg
160a(ii)	Cartenes, beta-, vegetable	2000 mg/kg
160b(i)	Annatto extracts, bixin based	5 mg/kg as bixin
160b(ii)	Annatto extracts, norbixin based	100 mg/kg as norbixin
Emulsifier		
432-436	Polysorbates	2000 mg/kg
472e	Diacetyltartaric and fatty acid esters glycerol	2000 mg/kg
473	Sucrose esters of fatty acids	20000 mg/kg,singly or in combination
473a	Surose oligoesters, type I and type II	
474	Sucroglycerides	
475	Polyglycerol esters of fatty acids	20000 mg/kg
491-495	Sorbitan esters of fattey acids	20000 mg/kg

INS No.	Name of Food Additives	Maximum Level
Stabilizer		
405	Propylene glycol alginate	10000 mg/kg
Sweetener		
950	Acesulfame potassium	500 mg/kg
951	Aspartame	1300 mg/kg

4.2.3 ***Soybean Curd***

Acidityregulator, firming agent and stabilizers used in accordance with Tables 1, Table 2 and Table 3 of the *General Standard for Food Additives* (CXS 192-1995) in Food Category 06.8.3 are acceptable for use in this product.

4.2.4 ***Compressed Soybean Curd***

Acidity regulator, firming agents, preservatives, listed in Table 3 of the *General Standard for Food Additives* (CXS 192-1995) are acceptable for use in this product. In addition, the following food additives may be used.

INS No.	Name of Food Additives	Maximum Level
Preservatives		
262ii	Sodium diacetate	1000 mg/kg

4.2.5 ***Dehydrated Soybean Curd Film***

Preservatives listed in Table 3 of the *General Standard for Food Additives* (CXS 192-1995) are acceptable for use in this product. In addition, the following food additives may be used.

INS No.	Name of Food Additives	Maximum Level
Preservatives		
220-225,227-228,539	Sulfites	200 mg/kg, as residual SO_2

4.3 Flavourings

The flavourings used in products covered by this standard shall comply with the *Guidelines for the Use of Flavourings* (CXG 66-2008).

4.4 Processing Aids

Processing aids with antifoaming, controlling acidity for coagulant and for extracting soybean beverages and carrier functions can be used in the products covered by this standard.

Processing aid used in products covered by this standard shall comply with the *Guidelines on substances used as processing aids (*CXG 75-2010).

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. HYGIENE

It is recommended that the products to which this standard applies should be manufactured and handled in compliance with the General *Principles of Food Hygiene* (CXC 1-1969) and with other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

This product should comply with any microbiological criteria established in accordance with the *Principles and Guidelines* f*or the Establishment and Application of Microbiological Criteria related* to *Foods* (CXG 21-1997).

7. WEIGHTS AND MEASURES

7.1 Net Weight

The weight of the products covered by the provisions of this Standard shall be indicated in accordance with the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985).

7.1.1 *Classification of "Defectives"*

A container that fails to meet the net weight declared on the label should be considered as a "defective".

7.1.2 *Lot Acceptance*

A lot should be considered as meeting the requirement of Section 7.1 when the number of "defectives", as defined in Section 7.1.1, does not exceed the acceptance number (c) of the appropriate sampling plan with an AQL of 6.5 (Annex I, II).

8. LABELLING

The product covered by the provisions of this Standard shall be labelled in accordance with the *General Standard for the Labelling of Prepackaged Foods* (CODEX STAN 1-1985).

If soybean derived from modern biotechnology is used in the process, consideration shall be given to the *Compilation of Codex texts relevant to the labelling of foods derived from modern biotechnology* (CAC/GL 76-2011).

8.1 The Name of the Product

The product should be designated with the appropriate term in Section 2.2. Other names may be used in accordance with the law and custom of the country of retail sale and in the manner not to mislead consumers.

9. METHODS OF ANALYSIS AND SAMPLING

9.1 Methods of Analysis

9.1.1 *Determination of Moisture Content*

According to AOAC 925.09 or AACCI 44-40.01.

9.1.2 *Determination of Protein Content*

According NMKL 6, 2004 or AACCI 46-16.01 or AOAC 988.05 or AOCS Bc 4-91 or AOCS Ba 4d-90, nitrogen factors for non-fermented soybean products are 5.71.

ANNEX I

Sampling Plans

The appropriate inspection level is selected as follows:

Inspection level I - Normal Sampling

Inspection level II - Disputes, (Codex referee purposes sample size), enforcement or need for better lot estimate

SAMPLING PLAN 1

(Inspection Level I, AQL = 6.5)

NET WEIGHT IS EQUAL TO OR LESS THAN 1 KG (2.2 LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
4,800 or less	6	1
4,801 - 24,000	13	2
24,001 - 48,000	21	3
48,001 - 84,000	29	4
84,001 - 144,000	38	5
144,001 - 240,000	48	6
more than 240,000	60	7
NET WEIGHT IS GREATER THAN 1 KG (2.2 LB) BUT NOT MORE THAN 4.5 KG (10 LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
2,400 or less	6	1
2,401 - 15,000	13	2
15,001 - 24,000	21	3
24,001 - 42,000	29	4
42,001 - 72,000	38	5
72,001 - 120,000	48	6
more than 120,000	60	7
NET WEIGHT GREATER THAN 4.5 KG (10 LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
600 or less	6	1
601 - 2,000	13	2
2,001 - 7,200	21	3
7,201 - 15,000	29	4
15,001 - 24,000	38	5
24,001 - 42,000	48	6
more than 42,000	60	7

ANNEX II

SAMPLING PLAN 2

(Inspection Level II, AQL = 6.5)

NET WEIGHT IS EQUAL TO OR LESS THAN 1 KG (2.2 LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
4,800 or less	13	2
4,801 - 24,000	21	3
24,001 - 48,000	29	4
48,001 - 84,000	38	5
84,001 - 144,000	48	6
144,001 - 240,000	60	7
more than 240,000	72	8
NET WEIGHT IS GREATER THAN 1 KG (2.2 LB) BUT NOT MORE THAN 4.5 KG (10 LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
2,400 or less	13	2
2,401 - 15,000	21	3
15,001 - 24,000	29	4
24,001 - 42,000	38	5
42,001 - 72,000	48	6
72,001 - 120,000	60	7
more than 120,000	72	8
NET WEIGHT GREATER THAN 4.5 KG (10 LB)		
Lot Size (N)	**Sample Size (n)**	**Acceptance Number (c)**
600 or less	13	2
601 - 2,000	21	3
2,001 - 7,200	29	4
7,201 - 15,000	38	5
15,001 - 24,000	48	6
24,001 - 42,000	60	7
more than 42,000	72	8