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Report Name: National Food Safety Standard Restricting Excessive Packaging for Foods and Cosmetics

Country: China - People's Republic of

Post: Beijing

Report Category: FAIRS Subject Report, Sanitary/Phytosanitary/Food Safety, WTO Notifications, Trade Policy Monitoring

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Report Highlights:

In August 2021, the People's Republic of China (PRC) State Administration of Market Regulation (SAMR) released an updated National Food Safety Standard Restricting Excessive Packaging for Foods and Cosmetics (GB 23350-2021). The updated standard will enter into force on September 1, 2023. This report provides an unofficial translation of the standard as it relates to food products.

Summary:

On August 10, 2021, SAMR released an updated National Food Safety Standard of Restricting Excessive Packaging for Foods and Cosmetics (GB 23350-2021), which will replace the current implementing standard GB 23350-2009 (link in Chinese) and enter into force on September 1, 2023.

On May 24, 2022, SAMR approved and released the first amendment sheet for the GB 23350-2021 (link in Chinese), which specifically revised the requirements for the packaging layers, packaging costs, and necessary spatial coefficient for mooncakes and *Zongzi*. This rule entered into force on August 15, 2022.

China also notified a new National Food Safety Standard of Restricting Excessive Packaging for Edible Agricultural Products to WTO under G/TBT/N/CHN/1715 in February 2023 for which the proposed date of entry into force remains to be determined.
This report provides an unofficial translation of the standard GB 23350-2021.

BEGIN TRANSLATION

National Food Safety Standard
Restricting Excessive Packaging for Foods and Cosmetics
GB 23350-2021

Forword

The standard was released on August 10, 2021, and will enter into force on September 1, 2023.

This standard was drafted according to GB/T 1.1-2020 "Standardized Guidance Part 1 Structure and Rule for Drafting Standardized Documents."

This standard replaced GB 23350-2009 Restricting Excessive Packaging for Foods and Cosmetics, compared with GB 23350-2009, the major technical contents are changed as follow:

- Deleted normative references (see Chapter 2 of 2009 edition),
- Changed the definitions of terms such as contents, number of packaging layers, packaging interspace ratio, excessive packaging, and necessary spatial coefficient of commodity. Added the definition of comprehensive commodity terms (see Chapter 3 of this standard and Chapter 3 of 2009 edition),
- Modified basic requirements (see 4.1 of this standard and 4.1 of 2009 edition),
- Modified limits requirements (see 4.2 of this standard and 4.2 of 2009 edition),
- Added testing methods (see Chapter 5 of this standard).
- Changed the calculation methods of packaging interspace ratio (see 5.4 of this standard, 5.1 and Appendix A of 2009 edition),
- Added the determination rules (see Chapter 6),

- Added the necessary spatial coefficient for different commodities (see Appendix A of this standard).

Please note that some of the contents of the cited documents may involve patents. The issuing agency of the standard does not bear responsibility for identifying the patents.
This document is proposed and managed by the Ministry of Industry and Information Technology of the People's Republic of China.

The releases status of the documents are as follows:

- The first release of the standard in 2009 was GB 23350-2009.
- This standard is the first revision.

1 Scope
This document specifies the requirements, testing, and determination rules for restricting excessive packaging for foods and cosmetics. This document applies to sales packaging of foods and cosmetic and is not applicable to gifts or items not for sale.

2 Normative references
This document has no normative references.

3 Terms and Definitions
The following terms and definitions apply to this document.

3.1 Excessive package
The packaging is regarded as excessive package when its interspace ratio, number of layers, or costs exceed the requirements.

3.2 Sales package
With sales as the main purpose, the packaging that reaches to consumers together with the contents.

3.3 Contents
Foods or cosmetics contained in the package.

3.4 Interspace ratio
The ratio of the volume after removing necessary space occupied by the contents of the package to the total volume of the package.

3.5 Multiple products
Products containing two or more types of foods or cosmetics in the package.

3.6 Single piece
Contains independent packaging and clearly marked with net content.

3.7 Package layers

The number of layers of physically detachable packaging that completely wrap the contents.
Note: Complete wrapping refers to the packing method that prevents the contents from falling out.

3.8 The necessary spatial coefficient of commodity
A correction factor for the measurement of space required to protect foods or cosmetics.
Note: expressed by k.

4 Requirements

4.1 Packaging interspace ratio
The packaging interspace ratio of foods and cosmetics packaging shall comply with the requirements in Table 1.

Table 1: Packaging Interspace Ratio for Foods and Cosmetics

Single piece[a] Net Content (Q) mL or g	Interspace Ratio[b] %
≤1	≤85
1<Q≤5	≤70
5<Q≤15	≤60
15<Q≤30	≤50
30<Q≤50	≤40
>50	≤30
Note: This table is not applicable to products with only one layer of packaging.	
[a] Cosmetics that need to be mixed for using, a single piece refers to the mixed products. [b] The interspace ratio for multiple products should be the interspace ratio corresponding to the product with the largest net content in a single piece.	

4.2 Packaging layers
Grain and its processed products should not exceed three floors, and other commodities should not exceed four floors.

4.3 Packaging costs
The production organization shall take measures to control the costs of all packaging except for the packaging directly in contact with the contents not to exceed 20% of the sales price of the product.

5 Testing

5.1 Sampling

For foods and cosmetics of the same variety and with the same packaging style, only one sample needs to be taken.

5.2 Equipment and tools

Measurement equipment and tools such as rulers, calipers, and volume measuring instruments shall meet the testing requirements and be accurate to 1 mm or 1 mm^3.

5.3 Sales package volume measurement method

5.3.1 The first method: instrument method (arbitration method)
Under room temperature and pressure, after the volume measuring instrument is calibrated in accordance with the operating procedures, place the commodity sales package on the instrument measurement platform and start the measurement. Repeat three times and use the arithmetic mean value to calculate the commodity sales package volume.

5.3.2 The second method: manual method
Under room temperature and pressure, use length measuring instrument to measure the length, width, and height of the cuboid commodity sales package along the outer wall of the package, and repeat three times. Use the arithmetic mean value to calculate the volume of the commodity sales package. Use a length measuring instrument to measure the cylinder commodity sales package along the outer wall of the package and repeat three times. Use the arithmetic mean value to calculate the volume of the commodity sales package.
Note: Only applicable to commodities with regular shapes

5.3.3 The third method: other methods
When water drainage method or similar method is used to measure the commodity sales package, the sales package is immersed in the volume of the water (or other uniform fine particles) that has been accurately measured. The added volume is the volume of the commodity sales package. Repeat three times and use the arithmetic mean value to calculate the commodity sales package volume.
Note: Only applicable to water-proof sales packages.

5.4 Calculation methods for interspace ratio

5.4.1 Calculation
Interspace ratio is calculated according to the formula 1):

$$X = \frac{V_a - \sum (kV_0)}{V_n} \times 100\% \quad (1)$$

Where:

X: Interspace ratio,
V_n: Commodity sales package volume, expressed in mm^3,
V_0: Contents volume, expressed in mm^3,
Note: The volume of the contents is converted based on the net content marked on the product, 1mL or 1g is converted to 1,000mm^3 for calculation.

k: necessary spatial coefficient of commodity, the necessary spatial coefficient for foods and cosmetics shall comply with Appendix A.
Note: The value of k depends on the product and the value of the multiple products is used respectively.

5.4.2 Repeatability
The absolute difference between the results of independent tests shall not exceed 10% of the arithmetic mean value.

5.5 Calculation method for packaging layers

5.5.1 The packaging that directly contacts the contents is regarded as the first layer and the outermost packaging is the Nth layer, N is the packaging layers.

5.5.2 Packaging materials that are intrinsic properties of the products such as bamboo leaves, bamboo tubes, natural or collagen sausage casings, hollow capsules, etc. that directly contact the contents, and films that are close to the outside of the sales package and whose thickness is less than 0.03 mm are not counted.

5.5.3 If the same packaging contains products with different packaging layers, only the packaging layers of the products with restricted packaging requirements will be calculated. The number of packaging layers is calculated separately for products with restricted packaging requirements, and the products packaging layers shall be determined according to the restricted packaging requirements respectively.

5.6 Calculation method for packaging costs

Packaging cost is calculated according to formula (2):

$$Y = \frac{C}{P} \text{ X } 100\% \qquad (2)$$

Where:

Y: The ratio of packaging costs to product sales prices,
C: The sum of the costs of all packaging from the second layer to the Nth layer, expressed in RMB Yuan,
P: The sales price of the contract signed by the manufacturer and the distributor, or the market sales price of the product, expressed in RMB Yuan.

6 Determination Rules
If there is one or more results of the product packaging that does not meet the requirements stipulated in Chapter 4, the packaging of the product shall be determined as excessive packaging.

Appendix A
(normative)

Necessary Spatial Coefficient of Commodities

Necessary spatial coefficients for foods and cosmetics are shown in Table A.1 and Table A.2 respectively.

Table A.1: Necessary Spatial Coefficients for Foods

Commodity Category	k
Grains and processed products	4.5
Edible oils, fats, and products	4.5
Condiments	5.0
Meat products [a]	7.0
Dairy products [b]	4.5
Beverages [c]	5.0
Convenience foods [d]	9.5
Biscuits	10.0
Canned foods	2.5
Frozen drinks [e]	6.0
Quick Frozen foods	5.0
Potatoes and puffed foods	20.0
Candy products [f]	10.0
Tea and products [g]	13.0
Alcoholic drinks [g]	13.0
Vegetables and products	7.0
Fruits and products	7.0
Roasted seeds and nut products	5.5
Egg products	4.5

Cocoa and Roasted Coffee Products	4.5
Sugar	4.5
Aquatic products [h]	4.5
Starch and products	3.0
Pastry	12.0
Bean products	5.0
Bee products	5.0
Health foods [j]	18.0
Foods for special medical purposes	3.0
Formula foods for infants and children	3.0
Special dietary foods	3.0
Other foods	10.0
If the product preparation requires a brewing machine, k value of the product is 3.5 times that of similar products. The net content of a single piece is less than 10g, k value of the product is 5 times that of similar products. The k value of product with inflatable packaging is twice that of similar products.	
a: k value of meat floss is 10.0.	
b: k value of dairy products is 3.0.	
c: k value of solid drinks is 15.0.	
d: k value of instant and prepared products is 11.0.	
e: k value of product with refrigerated substances such as dry ice in the package is 9.0.	
f: k value of chip shaped chocolate product is 15.0.	
g: for a product that is exempted from labeling shelf life, the minimum annual sales unit quantity is less than 10,000 pieces, and “limited edition” and the production quantity of the products are printed on the package, the k value is 30.0.	
h: k value of dried seaweed is 60.0.	
i: k value of puffed bean products is 20.0.	
j: refers to the four dosage forms of tablets, capsules, granules, or oral liquids. The k values of other categories of foods such as beverages, alcoholic drinks, biscuits, candies, pastries, liquid dairy products, etc. (excluding guttate pills) correspond to those under the general food categories in this Table.	

Table A.2 Necessary space factor for cosmetic products
[Omitted]

END TRANSLATION

Attachments:

No Attachments.