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China Releases Standard for Maximum Levels of Mycotoxins in

Foods

Report Categories:

FAIRS Subject Report

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Report Highlights:

On March 17, 2017, the National Health and Family Planning Commission (NHFPC, currently the National Health Commission) and the China Food and Drug Administration (CFDA, currently the State Administration of Market Regulation) released the National Food Safety Standard for Maximum Levels of Mycotoxins in Foods (GB 2761-2017), which was implemented on September 17, 2017. This standard sets limits for Aflatoxin B₁, Aflatoxin M₁, Deoxynivalenol, Patulin, Ochratoxin A and Zearalenone in foods. It is an update of the GB2761-2011. Please note that the comment process has ended and that this standard is considered final.

The following report contains an unofficial translation of the final standard.

General Information:

BEGIN TRANSLATION

Maximum Levels of Mycotoxins in Foods Foreword

This standard replaces GB 2761-2011 “Maximum Levels of Mycotoxins in Foods”.

This standard modifies the GB 2761-2011 in the following aspects:

- Modifies the principles of (standard) application;
- Adds limit requirements on Ochratoxin A in wine and coffee;
- Adds limit requirements on mycotoxins in formula foods for special medical purposes (FSMP), complementary food supplement, sports nutrition foods, nutrition supplements for pregnant and lactating women;
- Removes the explanation in parentheses behind fermented paste in Table 1;
- Updates the number of national standard of testing methods;
- Modifies the Appendix A.

National Food Safety Standard Maximum Levels of Mycotoxins in Foods

1 Scope

This standard sets limits for Aflatoxin B₁, Aflatoxin M₁, Deoxynivalenol, Patulin, Ochratoxin A and Zearalenone in foods.

2 Terminologies and definitions

2.1 Mycotoxin

The toxic secondary metabolite produced by organisms of the fungi in the process of growth and reproduction.

2.2 Edible part

The remaining part of food material for edible use after mechanical processing, which remove the non-edible part (such as grain husk, fruit peeling, nuts cracking, bones in meat/fish, shell of shellfish).

Note 1: the non-edible parts cannot be removed by non-mechanical means (such as refining of crude vegetable oil);

Note 2: quantity of the edible parts may vary when different production techniques are used to produce the same food materials. For example, the edible part could be 100% when processing cereal and whole-wheat flour from wheat, while the edible part is calculated by the actual flour extraction rate when producing wheat flour from wheat.

2.3 Limit

Maximum level of mycotoxin in the edible parts of food materials and/or finished food products.

3 Principles of (standard) application

Regardless of existence of the mycotoxin limits, the food producers and processors should take control measures to keep the mycotoxin content at the minimum level.

3.1 This standard lists the mycotoxins that may pose high risks to public health; the foods with the mycotoxin limits are foods that pose higher impact on consumers' dietary exposure.

3.2 Explanation of the Food Categories (Appendix A) is for defining scope of application of the mycotoxin limits, and is only applicable to this standard. When a mycotoxin limit is applied to a certain food category, all types of foods in the food category are subject to the limit unless otherwise specified.

3.3 Maximum levels of mycotoxins in foods are calculated by the edible parts of the food unless otherwise specified.

4 Specifications

4.1 Aflatoxin B₁

4.1.1 Please refer to Table 1 for Aflatoxin B₁ limits in foods.

Table 1 Aflatoxin B₁ limits in foods

Food Category (name)	Limit (µg /kg)
Grains and grain products	
Corn, corn flour (grits, flake) and corn products	20
Paddy rice ^a , brown rice, rice	10
Wheat, barley, other grains	5.0
Wheat flour, cereal, other husked grains	5.0
Beans and bean products	
Fermented bean products	5.0
Nuts and seeds	
Peanut and its products	20
Other cooked nuts and seeds	5.0
Fat and its products	
Vegetable oil and fat (excluding peanut oil, corn oil)	10
Peanut oil, corn oil	20
Condiment	

Food Category (name)	Limit (µg /kg)
Soy sauce, vinegar, fermented paste	5.0
Foods intended for special dietary uses	
Formula foods for infants and young children	
Formula foods for infants ^b	0.5 (in powdered product basis)
Formula foods for older infants and young children ^b	0.5 (in powdered product basis)
Formula foods for infants for special medical purposes	0.5 (in powdered product basis)
Complementary foods for infants and young children	
Cereal-based complementary foods for infants and young children	0.5
Formula foods for special medical purposes ^b (excluding the categories of formula foods for infants for special medical purposes)	0.5 (in solid product basis)
Complementary food supplement ^c	0.5
Sports nutritional food ^b	0.5
Multi-nutrient supplementary food for pregnant and lactating women ^c	0.5
^a Paddy rice in the brown rice basis. ^b Products in which soybean and soy protein are the major material. ^c Only limit to products containing grains, nuts and beans.	

4.1.2 Testing method: using methods provided in GB 5009.22.

4.2 Aflatoxin M₁

4.2.1 Please refer to Table 2 for Aflatoxin M₁ limits in foods.

Table 2 Aflatoxin M₁ limits in foods

Food Category (name)	Limit µg /kg
Milk and milk products ^a	0.5
Foods intended for special dietary uses	
Formula foods for infants and young children	
Formula foods for infants ^b	0.5 (in powdered product basis)
Formula foods for older infants and young children ^b	0.5 (in powdered product basis)
Formulas for special medical purposes intended for infants	0.5 (in powdered product basis)
Formula foods for special medical purposes (FSMP) ^b (excluding varieties related to FSMP intended for infants)	0.5 (in solid product basis)
Complementary food supplement ^c	0.5
Sports nutritional food ^b	0.5
Multi-nutrient supplementary food for pregnant and lactating women ^c	0.5
^a Milk powders converted from raw milk. ^b Products produced from milk and milk protein products.	

° Only limit to products containing milk.

4.2.2 Testing method: using methods provided in GB 5009.24.

4.3 Deoxynivalenol

4.3.1 Please refer to Table 3 for Deoxynivalenol limits in foods.

Table 3 Deoxynivalenol limits in foods

Food Category (name)	Limit µg /kg
Grains and grain products	
Corn, corn flour (grits, flake)	1000
Barley, wheat, cereal, wheat flour	1000

4.3.2 Testing method: using methods provided in GB5009.111.

4.4 Patulin

4.4.1 Please refer to Table 4 for Patulin limits in foods.

Table 4 Patulin limits in foods

Food Category (name) ^a	Limit µg /kg
Fruit and its products	
Fruit products (excluding hawthorn sheet)	50
Beverages	
Fruit and vegetable juice	50
Liquor	50
^a Only limited to products produced from apple and howthorn.	

4.4.2 Testing method: using methods provided in GB 5009.185.

4.5 Ochratoxin A

4.5.1 Please refer to Table 5 for Ochratoxin A limits in foods.

Table 5 Ochratoxin A limits in foods

Food Category (name)	Limit µg /kg
Grains and grain products	
Grains ^a	5.0
Milled grain products	5.0
Beans and bean products	
Beans	5.0
Liquor	
Wine	2.0
Nuts and seeds	
Baked coffee beans	5.0
Beverages	
Ground coffee (roast coffee)	5.0
Instant coffee	10.0
^a Paddy rice in the brown rice basis.	

4.5.2 Testing method: using methods provided in GB 5009.96.

4.6 Zearalenone

4.6.1 Please refer to Table 6 for Zearalenone limits in foods.

Table 6 Zearalenone limits in foods

Food Category (name)	Limit µg /kg
Grains and grain products	
Wheat, wheat flour	60
Corn, corn flour (grits, flake)	60

4.6.2 Testing method: using methods provided in GB 5009.209.

Appendix A Explanation of the Food Categories

A.1 Please refer to the Table A.1 for explanation of the food categories.

Table A.1 Explanation of the Food Categories

Fruit and fruit products	<p>Fresh fruit (unprocessed fruit, surface-treated, peeled or pre-cut, frozen fruit)</p> <ul style="list-style-type: none"> Berries and other small fruits Other fresh fruit (including sugar cane) <p>Fruit products</p> <ul style="list-style-type: none"> Canned fruit Dried fruit Fruit processed with vinegar, oil, or salt Fruit jam (paste) Candied and preserved fruit (including hawthorn sheets) Fermented fruit product Cooked or fried fruit Fruit dessert Other fruit products
Grains and grain products (excluding baked products)	<p>Grains</p> <ul style="list-style-type: none"> Paddy rice Corn Wheat Barley Other grains [such as millet, sorghum, rye, oat, buckwheat, etc.] <p>Milled grain products</p> <ul style="list-style-type: none"> Brown rice Rice Wheat flour Corn flour (grits, flake) Cereal Other husked grains (such as millet, sorghum, barley, broomcorn millet, etc.) <p>Grain products</p> <ul style="list-style-type: none"> Rice products (such as rice flour, glutinous rice ball flour and other products, etc.) Wheat flour product <ul style="list-style-type: none"> Fresh pastas and noodles and similar products (e.g. unboiled noodles, and “skins” or crusts for dumplings, wontons, shuo mai) Dried pastas and noodles and similar products Fermented wheat flour product Batters (e.g. for breading or batters for fish or poultry), breader, frying powder Gluten Other wheat flour products Corn products Other grain products (such as wheat or rice flour products with fillings, canned assorted cereal porridge)

Beans and bean products	<p>Beans (dried beans, and powder of milled dry beans)</p> <p>Bean products</p> <p style="padding-left: 20px;">Non-fermented bean products (such as soy milk, bean curd, dried bean curd, bean curd stick, cooked bean products, puffed soybean protein food, soybean meat, etc.)</p> <p style="padding-left: 20px;">Fermented bean products (such as fermented bean curd, natto, fermented soybeans and products)</p> <p style="padding-left: 20px;">Canned beans</p>
Nuts and seeds	<p>Fresh and dried nuts and seeds</p> <p style="padding-left: 20px;">Tree nuts</p> <p style="padding-left: 20px;">Oil seeds (exclusive of grain seeds and beans)</p> <p style="padding-left: 20px;">Seeds for beverages and sweeteners (such as cocoa and coffee beans, etc.)</p> <p>Nuts and seeds products</p> <p style="padding-left: 20px;">Cooked nuts and seeds (with and without shell)</p> <p style="padding-left: 20px;">Canned nuts and seeds</p> <p style="padding-left: 20px;">Nuts and seeds paste, including peanut butter, etc.</p> <p style="padding-left: 20px;">Other nuts and seed products (such as pickled nuts)</p>
Milk and milk products	<p>Raw milk</p> <p>Pasteurized milk</p> <p>Sterilized milk</p> <p>Modified milk</p> <p>Fermented milk</p> <p>Evaporated milk and sweetened condensed milk</p> <p>Milk powders</p> <p>Whey powder and whey protein powder (including non-demineralized whey powder)</p> <p>Cheese</p> <p>Process(ed) cheese</p> <p>Other dairy products (including casein)</p>
Fat and its products	<p>Vegetable oil and fat</p> <p>Animal fats (such as lard, tallow, fish oil, cream, butter, anhydrous milk fat, etc.)</p> <p>Fat products</p> <p style="padding-left: 20px;">Hydrogenated vegetable oil and products mainly made from hydrogenated vegetable oil (such as margarine, shortening, etc.)</p> <p style="padding-left: 20px;">Blend oil</p> <p style="padding-left: 20px;">Other fat products</p>
Condiment	<p>Salt</p> <p>MSG</p> <p>Vinegar</p> <p>Soy sauce</p> <p>Fermented paste</p> <p>Cooking wine</p> <p>Spices</p> <p style="padding-left: 20px;">Spices and powdered spices</p> <p style="padding-left: 20px;">Spice oil</p> <p style="padding-left: 20px;">Spiced pastes (e.g. mustard seasonings, wasabi)</p> <p style="padding-left: 20px;">Other spice processed product</p>

	<p>Aquatic dressing</p> <ul style="list-style-type: none"> Fish condiment (such as fish gravy, etc.) Other aquatic dressing (such as oyster oil, shrimp oil, etc.) <p>Blended condiments (such as solid mixes for soups and broths, chicken essence, chicken powder, mayonnaise, salad dressing, flavored clear soup, etc.)</p> <p>Other condiments</p>
Beverages	<p>Packaged drinking water</p> <ul style="list-style-type: none"> Mineral water Drinking distilled water Other packaged drinking water <p>Fruit and vegetable juice (such as apple juice, apple cider vinegar, hawthorn juice, hawthorn vinegar, etc.)</p> <ul style="list-style-type: none"> Fruit and vegetable juice (pulp) Concentrated fruit and vegetable juice (pulp) Other fruit and vegetable juice (nectar) drink (including fermented product) <p>Drinks containing protein</p> <ul style="list-style-type: none"> Drinks containing milk (drinks containing fermented milk, recombined drinks containing milk, drinks containing lactobacillus) Drinks containing plant protein Blended drinks containing protein Other drinks containing protein <p>Carbonated drink</p> <p>Tea drink</p> <p>Coffee drink</p> <p>Plant drink</p> <p>Flavored drink</p> <p>Powdered drink [including instant coffee, ground coffee (roast coffee)]</p> <p>Other beverages</p>
Liquor	<p>Distilled spirit (such as liquor, brandy, whisky, vodka, rum, etc.)</p> <p>Integrated alcoholic beverage</p> <p>Fermented alcoholic beverages (such as grape wine, Chinese rice wine, beer, etc.)</p>
Foods intended for special dietary uses	<p>Formula foods for infants and young children</p> <ul style="list-style-type: none"> Formula foods for infants Formula foods for older infants and young children Formulas for special medical purposes intended for infants <p>Complementary foods for infants and young children</p> <ul style="list-style-type: none"> Cereal-based complementary foods for infants and young children Canned complementary foods for infant and young children <p>Formula foods for special medical purposes (excluding varieties related to formulas for special medical purposes intended for infants)</p> <p>Other foods intended for special dietary uses (e.g. complementary food supplement, sports nutritional food, multi-nutrient supplementary food for pregnant and lactating women, etc.)</p>

END OF TRANSLATION