

Voluntary Report – Voluntary - Public Distribution

Date: April 11, 2023

Report Number: CH2023-0055

Report Name: National Food Safety Standard for the Control of Dioxins and PCBs in Foods Notified to WTO

Country: China - People's Republic of

Post: Beijing

Report Category: FAIRS Subject Report, Livestock and Products, Sanitary/Phytosanitary/Food Safety, WTO Notifications, Grain and Feed

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Report Highlights:

On March 6, 2023, China notified a new National Food Safety Standard for the Control of Dioxins and PCBs in Foods to the World Trade Organization (WTO) under G/SPS/N/CHN/1275. The deadline for comment submission is May 5, 2023. The proposed date of entry into force is to be determined.

Comments may be submitted by email to China's SPS Enquiry Point at sps@customs.gov.cn. This report provides an unofficial translation of the draft standard.

Summary:

On March 6, 2023, China notified a new National Food Safety Standard for the Control of Dioxins and PCBs in Foods to the WTO under [G/SPS/N/CHN/1275](#). This standard provides the basic requirements and management guidelines for the control of dioxins and PCBs in foods for the production environment of edible agricultural products, feed consumed by edible animals, and the control requirements during food processing, storage, and transportation. This report provides an unofficial translation of the draft standard.

BEGIN TRANSLATION

National Food Safety Standard
Control of Dioxins and Polychlorinated Biphenyls (PCBs) Contamination in Foods
(Draft for comments)

1. Scope

This standard specifies the basic requirements and management guidelines for controlling dioxins and PCBs in foods in the production environment of edible agricultural products, feed consumed by edible animals, and control requirements during the food processing, storage, transportation, etc.

This standard is applicable to the control of dioxin and PCBs (including dioxin like polychlorinated biphenyls and non-dioxin like polychlorinated biphenyls) contamination in foods.

2. Terms and Definitions**2.1 Edible animals**

Any of various animals intended for human consumption or whose products are intended for human consumption.

2.2 Dioxin (PCDD/Fs)

The generic term for polychlorinated dibenzo p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs).

2.3 Polychlorinated biphenyls (PCBs)

A generic term for compounds in which the hydrogen atoms on the ring of biphenyls are replaced by chlorine atoms, including dioxin like polychlorinated biphenyls and non-dioxin like polychlorinated biphenyls.

2.4 Dioxin-like polychlorinated biphenyls (DL-PCBs)

Compounds of polychlorinated biphenyls (PCBs) that contain toxicological properties similar to dioxins, including non ortho and mono ortho substituted PCBs.

2.5 Non-dioxin-like polychlorinated biphenyls

Those other than dioxin like polychlorinated biphenyls are collectively referred to as non-dioxin like polychlorinated biphenyls.

2.6 Indicator PCBs

Substances in polychlorinated biphenyls that can represent the contamination characteristics of these compounds.

2.7 Dioxins and their analogues

A generic term for compounds in PCDD/Fs and PCBs that have similar toxicological properties.

2.8 Toxic equivalence factor (TEF)

The coefficient obtained by comparing the toxicity of a dioxin and its analogues with the toxicity of 2,3,7,8-tetrachlorodibenzodioxin (TCDD), representing the relative toxicity of the dioxin and its analogues.

2.9 Toxic equivalent (TEQ)

The relative toxicity value calculated with multiplying the concentration of dioxins and their analogues by their TEF.

3. Production environment of edible agricultural products

3.1 The planting environment of edible plants (including soil, air, and irrigation water) should be protected from contamination by dioxins and polychlorinated biphenyls.

3.2 Agricultural land for edible plants should be kept away from sources of dioxin emissions, such as steel smelting, renewable nonferrous metal smelting, waste incineration, pulp and paper making, cremation, and the production of specific organochlorine chemical products, to avoid contamination by dioxins and polychlorinated biphenyls.

3.3 Sludge used for agricultural production should be protected from contamination by dioxins and polychlorinated biphenyls. If contaminated, appropriate measures should be taken for disposal to reduce its possible risks.

3.4 The soil on the land for breeding edible animals should be protected from contamination by dioxins and polychlorinated biphenyls. Outdoor breeding of animals in contaminated areas should be restricted.

3.5 Monitoring of dioxins and PCBs should be conducted in the planting and farming environment (atmosphere, soil, and water) that are close to typical dioxins and PCBs discharge areas (such as electronic waste disposal sites). See Appendix B for monitoring requirements.

3.6 It is advisable to reduce the exposure to wooden building materials and related products (such as wood shavings, sawdust, etc.) containing dioxins and PCBs during the breeding process of edible animals. Sawdust containing dioxins and PCBs should not be used in the farming process.

3.7 Fishery production areas should be protected from contamination by dioxins and PCBs. Sediments and fish in fishing and aquaculture areas should be regularly monitored. Refer to Appendix B for monitoring requirements to identify high-risk areas and contaminated fish. Fishing and aquaculture in contaminated areas are prohibited when necessary.

3.8 Monitoring of dioxins and PCBs should be carried out for inputs during cultivation and aquaculture. Refer to Appendix B for monitoring requirements to reduce the contamination caused by inputs such as pesticides that may contain dioxins and PCBs.

3.9 Monitoring of dioxins and PCBs should be carried out on the soil, water, and sediments of planting and breeding areas that may pose pollution risks of 3.1 and 3.2, such as the soil of free-range chickens, soil of cattle and sheep breeding areas, water and sediments of waterfowl breeding areas, and sediments of aquatic animal breeding areas such as Chinese mitten crabs. See Appendix B for monitoring requirements.

4. Feed for edible animals

4.1 It is necessary to analyze the possible contamination in the feed supply processes for edible animals and identify the sources of contamination of feed with high risks of dioxin and PCBs pollution.

4.2 The feed production for edible animals shall comply with relevant national regulations. Feed suppliers shall provide products qualification certificates and, if necessary, relevant information on the sources of feed ingredients.

4.3 Monitoring of dioxins and PCBs should be carried out for high-risk feed (fish meal, oil, silage, etc.), as well as feed additives such as trace elements (copper sulfate, etc.), minerals (montmorillonite, etc.), and industrial synthesis (vitamin E oil, etc.). See Appendix B for monitoring requirements.

5. Food processing

5.1 The sanitation requirements during food processing should comply with relevant regulations such as GB 14881.

5.2 Raw materials for food processing shall not be from areas contaminated with dioxins and PCBs. For animal derived raw materials for processing, processes such as peeling and degreasing can be used to reduce the content of dioxins and PCBs when necessary.

5.3 Equipment prone to oil contamination and frying residues during food processing, such as equipment for frying, smoking and baking, should be regularly cleaned and disinfected. The relevant sanitation monitoring measures should be developed, implemented, recorded, and verified.

5.4 Effective measures should be taken to reduce the production of dioxins and PCBs in key processes that are prone to produce dioxins and PCBs during food processing, such as drying, smoking, frying, and baking. The corresponding operating procedures should be developed, implemented, recorded, and verified.

5.4.1 During the thermal drying process, it is necessary to avoid using fuels such as firewood and inferior coal that are prone to generate dioxins and PCBs.

5.4.2 Fumigated particles appearing on the surface of foods should be removed in a timely manner during the smoking process.

5.4.3 Stainless steel equipment and utensils shall be used in the frying process, and the frying oil shall comply with the provisions of GB 2716 and GB10146. Monitoring of the frying process should be strengthened, and residues in the oil should be removed in a timely manner to avoid repeated use of frying oil.

5.5 Food related products should not be contaminated by dioxins and PCBs, and the use of preservatives containing pentachlorophenol and its sodium salts should be avoided as much as possible.

6. Food Storage and Transportation

6.1 Sanitation requirements for food storage and transportation should comply with relevant regulations such as GB 14881.

6.2 Building materials containing dioxins and PCBs such as asphalt, polyvinyl chloride, phosphogypsum, and coal ash should not be used on the wall surface of food storage sites. Places where smoking or burning has occurred cannot be used to store foods until the associated risks of contamination are eliminated.

6.3 Painted vehicles, ships, containers, etc. during food storage and transportation should not be contaminated by dioxins and PCBs from the paints.

Appendix A

Toxicity equivalence factors for dioxins and their analogues

Table A.1 Toxicity Equivalent Factor (TEF) of Dioxins and their Analogues

Compounds	SN	TEF			
		I-TEF ^a	WHO -TEF-1998 ^b	WHO-TEF-2005 ^c	
PCDD/Fs ^d	2,3,7,8-TCDD	1/6/1746	1.0	1.0	1.0
	1,2,3,7,8-PeCDD	40321-76-4	0.5	1.0	1.0
	1,2,3,4,7,8-HxCDD	39227-28-6	0.1	0.1	0.1
	1,2,3,6,7,8-HxCDD	57653-85-7	0.1	0.1	0.1
	1,2,3,7,8,9-HxCDD	19408-74-3	0.1	0.1	0.1
	1,2,3,4,6,7,8-HpCDD	35822-46-9	0.01	0.01	0.01
	OCDD	3268-87-9	0.001	0.000 1	0.000 3
	2,3,7,8-TCDF	51207-31-9	0.1	0.1	0.1
	1,2,3,7,8-PeCDF	57117-41-6	0.05	0.05	0.03
	2,3,4,7,8-PeCDF	57117-31-4	0.5	0.5	0.3
	1,2,3,4,7,8-HxCDF	70648-26-9	0.1	0.1	0.1
	1,2,3,6,7,8-HxCDF	57117-44-9	0.1	0.1	0.1
	1,2,3,7,8,9-HxCDF	72918-21-9	0.1	0.1	0.1
	2,3,4,6,7,8-HxCDF	60851-34-5	0.1	0.1	0.1
	1,2,3,4,6,7,8-HpCDF	67562-39-4	0.01	0.01	0.01
	1,2,3,4,7,8,9-HpCDF	55673-89-7	0.01	0.01	0.01
OCDF	39001-02-0	0.001	0.000 1	0.000 3	
DL-PCBs ^e	3,3',4,4'-TeCB	77	/	0.000 1	0.000 1
	3,4,4',5-TeCB	81	/	0.000 1	0.000 3
	2,3,3',4,4'-PeCB	105	/	0.000 1	0.000 03
	2,3,4,4',5-PeCB	114	/	0.000 5	0.000 03
	2,3',4,4',5-PeCB	118	/	0.000 1	0.000 03
	2',3,4,4',5-PeCB	123	/	0.000 1	0.000 03
	3,3',4,4',5-PeCB	126	/	0.1	0.1
	2,3,3',4,4',5-HxCB	156	/	0.000 5	0.000 03
	2,3,3',4,4',5-HxCB	157	/	0.000 5	0.000 03
	2,3',4,4',5,5'-HxCB	167	/	0.000 01	0.000 03
	3,3',4,4',5,5'-HxCB	169	/	0.01	0.03
	2,3,3',4,4',5,5'-HpCB	189	/	0.000 1	0.000 03

Note: TCDD: Tetrachlorodibenzodioxin; PeCDD: Pentachlorodibenzodioxin; HxCDD: hexachlorodibenzodioxin; HpCDD: Heptachlorodibenzodioxin; OCDD: Octachlorodibenzodioxin; TCDF: Tetrachlorodibenzofuran; PeCDF: pentachlorodibenzofuran; HxCDF: hexachlorodibenzofuran; HpCDF: Heptachlorodibenzofuran; OCDF: octachlorodibenzofuran; TeCB: Tetrachlorobiphenyl; PeCB: pentachlorobiphenyl; HxCB: hexachlorobiphenyl; HpCB: Heptachlorobiphenyl.

^a International Toxicity Equivalent Factor.

^b The toxicity equivalent factor specified by WHO in 1998.

^c Toxicity equivalent factor revised by WHO in 2005.

^d The code uses the CAS registration number.

^e The code uses the International Union of Pure Applied Chemistry (IUPAC) code.

Appendix B

Monitoring requirements for dioxins and PCBs

B.1 The analytical methods and laboratory requirements for dioxins and PCBs should comply with relevant standards.

B.2 The collected samples should be representative, effective, and traceable to avoid cross contamination and prevent sample deterioration.

B.3 The sample should be placed in a packaging container that does not react with dioxins and PCBs, and the container has been cleaned with chemical solvents or confirmed not to be contaminated with dioxins and PCBs. Perishable food should be stored and transported under suitable conditions.

B.4 Relevant sampling records should be kept, including sample collection and other relevant information (such as sampling date, geographical location, sample type, quantity, etc.).

B.5 The analysis methods should meet the minimum requirements of the analysis objectives. If used for qualification determination, the quantitative limit of the methods should be less than one fifth of the standard limit values; If used to evaluate the trend of the content of dioxins and PCBs in samples over time, the quantitative limits of the method should be lower than the background values in different matrix samples.

B.6 The analysis methods should meet the requirements of the analysis purpose, such as when the test results are 0.5 times, 1 times and 2 times of the limit values, and the coefficient of variation after repeated analysis is within an acceptable range. For foods and feed with a concentration of dioxins and their analogues of approximately 1pg WHO-TEQ/g (fat based), the difference between the upper and lower limit levels should not exceed 20%. If necessary, test results based on the wet or dry weight of the sample should be reported simultaneously.

B.7 In addition to biological testing methods, the total toxic equivalent concentrations of dioxins and PCBs in the sample should be reported as lower, middle, and upper limit concentrations. Refer to 2.9 for the calculation of toxic equivalence. For undetected dioxins and dioxin-like PCBs, the lower, middle, and upper limits of the total toxic equivalent concentration are calculated with multiplying the toxic equivalent factor by zero, one-half of the detection limit and detection limit respectively. For indicative PCBs, the analytical results should be reported simultaneously with the limit of quantitation.

B.8 Depending on the type of sample, the test result information should include whether the test result is based on the wet weight, dry weight or lipid weight of the sample, the method used for lipid extraction and dry weight determination, and the method used to calculate the limit of quantitation of the sample.

B.9 Laboratories with the ability to monitor dioxins and PCBs should develop effective quality control measures to ensure the accuracy of the analysis results of dioxins and PCBs.

END TRANSLATION

Attachments:

No Attachments.