File Ref.: FHB/F/5/1/8/2

LEGISLATIVE COUNCIL BRIEF

Public Health and Municipal Services Ordinance (Chapter 132)

FOOD ADULTERATION (METALLIC CONTAMINATION) (AMENDMENT) REGULATION 2018

INTRODUCTION

The Secretary for Food and Health, in exercise of the powers conferred by section 55 of the Public Health and Municipal Services Ordinance (Cap. 132), made the Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018 ("the Amendment Regulation") at **Annex** to stipulate updated standards for metallic contamination in food.

BACKGROUND

2. At present, the Food Adulteration (Metallic Contamination) Regulations (Cap. 132V) ("the Regulations") regulate the levels of metallic contamination in food in the following way -

(a) Regulation 3(1) of the Regulations prohibits the import, consignment, delivery, manufacture or sale, for human consumption, of any food containing any metal in greater concentration than as prescribed in the First or Second Schedule to the Regulations, or in such amount as to be dangerous or prejudicial to health; and

(b) The First and Second Schedules to the Regulations stipulate 19 maximum permitted concentrations (MPCs) of seven metallic contaminants, namely arsenic, antimony, cadmium, chromium, lead, mercury and tin, in food.

3. The Regulations were enacted in 1960. The Government has all along been making reference to the then standards of the Codex

Alimentarius Commission[1] (Codex) and those of other economies, as well as the then available data on the metallic concentrations in various foodstuffs, when reviewing the Regulations. Over the years, Codex has revised its standards on metallic contamination in food in view of the advancement of science and the outcome of risk assessment. Also, various other economies have revised their standards on metallic contamination taking into account the evolving Codex standards, the occurrence data of metallic contamination in foods and the food consumption patterns / dietary practices of their own economies, as well as their risk assessment results, etc.

PROPOSED AMENDMENTS

4. The Food and Health Bureau (FHB) and the Centre for Food Safety (CFS) under the Food and Environmental Hygiene Department conducted a comprehensive review on the Regulations, taking into account the Codex's latest standards on metallic contamination, relevant standards of other economies, local food consumption pattern / dietary practices and the results of risk assessment. FHB and CFS proposed to enhance and update the Regulations along the following directions / principles, with a view to enhancing the protection of public health, facilitating effective regulation and aligning Hong Kong's standards with international standards -

(a) to replace the existing food categories of "all food in solid form" and "all food in liquid form" with specific maximum levels (MLs)[2] targeting individual food / food groups, with a view to aligning with the Codex principle and modern international regulatory trends of specifying metallic contamination standards for individual food / food groups of significant dietary exposure;

(b) to adopt Codex MLs unless otherwise justified;

(c) to establish MLs for food / food groups which are of significance to the population in Hong Kong and for which

---

[1] Codex, established by the Food and Agriculture Organization of the United Nations and the World Health Organization in 1960s, is the single most important international source of reference for consumers, food producers, processors, food control agencies of respective economies and the international trade in developing food associated standards.

[2] The term ML is adopted by Codex and is of the same meaning as the term MPC. The term ML will be used in the Amendment Regulation in order to align with Codex terminology.

there are no relevant Codex MLs;

(d) to update the food descriptions and nomenclatures in the Regulations, with reference to the available Codex's food descriptions and nomenclatures or those of other economies as appropriate; and

(e) to incorporate interpretation of MLs into the Regulations, given that there is currently no interpretation in the Regulations on how the MPCs can be applied to food in a dried, dehydrated or concentrated form; as well as multi-ingredient products (i.e. compounded food).

5. The proposed amendments will increase the total number of metallic contaminants from the existing seven to 14. The seven additional metallic contaminants are barium, boron, copper, manganese, nickel, selenium and uranium. The number of MLs will be increased from the existing 19 to 144. Of the 144 MLs, 89 of them are more stringent than the existing MPCs, six are less stringent than the existing MPCs[3], and the rest are mostly MLs which are either the same as the existing MPCs or are newly established standards.

6. Setting specific MLs targeting individual food / food groups will be conducive to a more focused, tailor-made and proportionate regulation over metallic contamination in food, calibrated in accordance with the known risks associated with the food item concerned. Also, it is in line with Codex principles that MLs shall only be set for food in which the contaminant may be found in amounts that are significant for the total exposure of the consumer, i.e. the general local population. In other words, it is not necessary to set MLs for each and every type of foods that contain a contaminant.

THE AMENDMENT REGULATION

7. The Amendment Regulation sets out the proposed 144 MLs for the 14 metallic contaminants in respect of different food / food groups, provides where necessary definitions for individual food / food groups,

[3] Among those six proposed MLs, four are brought in line with the corresponding Codex MLs (i.e. cadmium in leafy vegetables and wheat, mercury (methylmercury) in fish, and tin in canned food), one is more stringent than the corresponding Codex ML (i.e. cadmium in polished rice), and one (i.e. cadmium in husked rice) is brought in line with the aforementioned proposed ML for cadmium in polished rice.

replaces / deletes obsolete clauses and provides the principles for the application of MLs on food in a dried, dehydrated or concentrated form and on compounded food. We have also added in transitional provisions to provide different grace period for different kinds of food.

LEGISLATIVE TIMETABLE

8. The legislative timetable for the Amendment Regulation is as follows –

Publication in the Gazette	8 June 2018
Tabling at the Legislative Council for negative vetting	13 June 2018
Date of commencement	1 November 2019

9. We are mindful of the public expectation that the Amendment Regulation should be in place as soon as practicable. Taking into account the need to allow sufficient time for traders to adapt to the updated MLs (including identifying alternative sources if needed) and the local testing and laboratory sector to build up testing capability based on the new MLs, we propose that the Amendment Regulation will take effect for certain types of fresh food (i.e. fresh fruit and vegetable and their juice, fresh meat and edible offal of animal and poultry, aquatic animal and poultry egg) on 1 November 2019 first, given the shorter durability and shelf life of those types of food. Given that food types other than those mentioned above normally have a longer shelf / storage life, we propose that the Amendment Regulation will take effect on them on 1 November 2020.

IMPLICATIONS OF THE PROPOSALS

10. The proposals will enhance regulatory control and update the standards for metallic contamination in food with a view to better protecting public health, facilitating effective regulation and aligning Hong Kong's standards with international standards. Also, the proposals are not likely to affect the supply of food in Hong Kong in general, given that our proposed MLs are generally in line with Codex's standards and principles for establishing MLs for contaminants in food. Furthermore, results from the routine food surveillance programme and additional baseline studies conducted by CFS indicate that the levels of metallic

contamination in food available in the local market can generally comply with the proposed MLs.

PUBLIC CONSULTATION

11. We launched a three-month public consultation exercise from 6 June to 5 September 2017 on the proposals. We attended meetings of the Legislative Council Panel on Food Safety and Environmental Hygiene (FSEH Panel) on 13 June and 3 July 2017 respectively to listen to Members' views and the views of the deputations representing the trade, and briefed the FSEH Panel on the outcome of the public consultation exercise, our responses to those views and the proposed way forward on 9 January 2018. The community and FSEH Panel Members generally supported the proposals for updating the Regulations along the directions / principles as set out in paragraph 4 above. A few FSEH Panel Members considered that the existing MPCs under the Regulations for cadmium in rice, leafy vegetables and wheat should continue to apply to those food products, as the standards on metallic contamination should be as stringent as possible. That said, some other FSEH Panel members and other stakeholders considered that standard setting should be science based and it was necessary to strike a balance between food safety and food supply.

PUBLICITY

12. A press release will be published on the date of the gazettal of the Amendment Regulation. A spokesperson will be made available to answer press enquiries.

ENQUIRY

13. For enquiries on this brief, please contact Miss Wong Pui-Sum, Cherry, Acting Senior Principal Executive Officer (Food) at 3509 8708.

Food and Health Bureau
June 2018

Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018

Contents

Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018

(Made by the Secretary for Food and Health under section 55 of the Public Health and Municipal Services Ordinance (Cap. 132))

1. Commencement

This Regulation comes into operation on 1 November 2019.

2. Food Adulteration (Metallic Contamination) Regulations amended

The Food Adulteration (Metallic Contamination) Regulations (Cap. 132 sub. leg. V) are amended as set out in sections 3 to 11.

3. Regulation 2 amended (interpretation)

(1) Regulation 2, definition of ***metal***—

Repeal

"chemical compounds of the metal"

Substitute

"antimony, arsenic, boron and selenium".

(2) Regulation 2—

Add in alphabetical order

"***maximum level*** (上限)—see regulation 3;".

4. Regulation 3 substituted

Regulation 3—

Repeal the regulation

Substitute

"3. Food prohibited for sale, etc. if its metal content exceeds certain level

(1) A person must not import, consign, deliver, manufacture or sell for human consumption any specified food or compounded food which contains a specified metal in excess of the maximum level.

(2) For paragraph (1)—

(a) the maximum level of each specified metal in each specified food is specified in Part 2 of the Schedule;

(b) the maximum level of a specified metal in a specified food that has gone through a process of drying, dehydration or concentration is to be proportionally adjusted according to the change in the concentration of the metal in the food caused by the process.

(3) For paragraph (1), the maximum level of a specified metal in each specified food applies to—

(a) the edible portion of the food; or

(b) if applicable, the portion of the food specified in, or the food in the form specified in, a note referred to in column 4 of Part 2 of the Schedule in relation to the food.

(4) For paragraph (1), if all ingredients of a compounded food are specified food, the maximum level of a specified metal in the compounded food is the sum of the maximum level of the specified metal in each ingredient multiplied by the proportion, by weight, of the ingredient in the compounded food.

(5) In this regulation—

compounded food (複合食品) means food containing 2 or more ingredients;

ingredient (配料)—

(a) means any substance which—

(i) is used in the manufacture or preparation of food; and

(ii) becomes part of the food as finished, even if in altered form; but

(b) excludes any additive within the meaning of regulation 2(1) of the Food and Drugs (Composition and Labelling) Regulations (Cap. 132 sub. leg. W);

specified food (指明食物) means any food specified in column 2 of Part 2 of the Schedule;

specified metal (指明金屬) means a metal specified in column 1 of Part 2 of the Schedule.".

5. Regulation 3AA added

After regulation 3—

Add

"**3AA. Food prohibited for sale, etc. if its metal level is dangerous or prejudicial to health**

(1) A person must not import, consign, deliver, manufacture or sell for human consumption any food containing any metal in an amount that is dangerous or prejudicial to health.

(2) In determining whether an item of food contains a metal in an amount that is dangerous or prejudicial to health, regard must be had to—

(a) the probable effect of that item on the health of a person consuming it; and

(b) the probable cumulative effect of food the composition of which is substantially the same as that item on the health of a person consuming the food in ordinary quantities.".

6. Regulation 3A amended (application to air transit or air transhipment cargo)

(1) Regulation 3A(1)—

Repeal

"Regulation 3 does not"

Substitute

"Regulations 3 and 3AA do not".

(2) Regulation 3A(1), English text—

Repeal

"in that regulation"

Substitute

"in those regulations".

(3) Regulation 3A(1)—

Repeal

"regulation 3"

Substitute

"regulations 3 and 3AA".

(4) Regulation 3A(1)—

Repeal

"that regulation has"

Substitute

"those regulations have".

(5) Regulation 3A(2)(a), after "regulation 3"—

Add

"or 3AA".

7. Regulation 4 amended (amendment of Schedules)

(1) Regulation 4, heading—

Repeal

"Schedules"

Substitute

"Schedule".

(2) Regulation 4—

Repeal

"concentrations specified in Column C of the First and Second Schedules"

Substitute

"maximum levels specified in column 3 of Part 2 of the Schedule".

8. Regulation 5 amended (offences and penalties)

Regulation 5—

Repeal

"any of the provisions of regulation 3"

Substitute

"regulation 3 or 3AA".

9. Regulation 7 added

After regulation 6—

Add

"7. Continued application of old standard until 31 October 2020

(1) During the period between 1 November 2019 and 31 October 2020 (both dates inclusive), a person who does an act in relation to any food (other than any food specified in paragraph (2)) that contains a metal at any level is taken not to have contravened regulation 3 if doing the act immediately before 1 November 2019 would not have contravened these Regulations as in force immediately before 1 November 2019.

(2) The food are fruit and vegetable and their juice, meat and edible offal of animal and poultry, aquatic animal and poultry egg which—

(a) has not been subjected to a process of preservation; or

(b) has been preserved by chilling but not freezing.".

10. First Schedule substituted

First Schedule—

Repeal the Schedule

Substitute

"Schedule

[regs. 3 & 4]

Maximum Level of Metal

Part 1

Interpretation

1. Interpretation

In this Schedule—

aquatic animals (水生動物)—

(a) includes—

(i) fish;

(ii) crustaceans;

(iii) molluscs, including bivalve molluscs, cephalopods, gastropods; and

(iv) any other aquatic invertebrate animals; but

(b) does not include amphibians, marine mammals or reptiles;

follow-up formula (較大嬰兒及幼兒配方產品) has the meaning given by regulation 2(1) of the Food and Drugs (Composition and Labelling) Regulations (Cap. 132 sub. leg. W);

infant formula (嬰兒配方產品) has the meaning given by regulation 2(1) of the Food and Drugs (Composition and Labelling) Regulations (Cap. 132 sub. leg. W);

milk (奶類) means the normal mammary secretion of milking animals that is—

(a) obtained from one or more milkings without either addition or extraction; and

(b) intended for consumption as liquid milk or for further processing;

secondary milk products (二次加工奶製品) means skimmed milk, partly skimmed milk, evaporated milk and milk powder.

Part 2

Maximum Level of Metal in Food

	Column 1	Column 2	Column 3	Column 4
	Metal	Food	Maximum Level (mg/kg)	Note
1.	Antimony	Vegetables	1	
		Cereals	1	
		Meat of animal	1	Note 1
		Meat of poultry	1	Note 1
		Fish	1	Note 2
		Crabs, prawns and shrimps	1	Note 3
		Oysters	1	
		Bottled or packaged drinking waters, other than natural mineral waters	0.02	
		Natural mineral waters	0.005	

	Column 1 Metal	Column 2 Food	Column 3 Maximum Level (mg/kg)	Column 4 Note
2.	Arsenic (expressed as total arsenic)	Vegetables	0.5	
		Cereals, other than rice	0.5	
		Meat of animal	0.5	Note 1
		Edible offal of animal	0.5	
		Meat of poultry	0.5	Note 1
		Edible offal of poultry	0.5	
		Edible fats and oils, other than fish oil	0.1	
		Fat spreads and blended spreads	0.1	
		Salt, food grade	0.5	
		Bottled or packaged drinking waters, other than natural mineral waters	0.01	
		Natural mineral waters	0.01	
3.	Arsenic (expressed as inorganic arsenic)	Husked rice	0.35	
		Polished rice	0.2	
		Aquatic animals, other than fish	0.5	Notes 3, 4, 5 and 6
		Fish	0.1	Note 2

	Column 1 Metal	Column 2 Food	Column 3 Maximum Level (mg/kg)	Column 4 Note
		Fish oil	0.1	
		Seaweed	1	
4.	Barium	Bottled or packaged drinking waters, other than natural mineral waters	1.3	
		Natural mineral waters	0.7	
5.	Boron	Bottled or packaged drinking waters, other than natural mineral waters	2.4	
		Natural mineral waters	5	
6.	Cadmium	Bulb vegetables	0.05	
		Brassica vegetables, other than Brassica leafy vegetables	0.05	
		Fruiting vegetables, Cucurbits	0.05	
		Fruiting vegetables, other than Cucurbits and tomatoes	0.05	

Column 1	Column 2	Column 3	Column 4
Metal	Food	Maximum Level (mg/kg)	Note
	Leafy vegetables (including Brassica leafy vegetables)	0.2	
	Legume vegetables	0.1	
	Pulses	0.1	
	Root and tuber vegetables	0.1	
	Stalk and stem vegetables	0.1	
	Vegetables unless otherwise specified	0.1	
	Cereals, other than buckwheat, cañihua, quinoa, wheat and rice	0.1	
	Wheat	0.2	
	Husked rice	0.2	
	Polished rice	0.2	
	Meat of cattle, pigs, goat and sheep	0.05	Note 1
	Liver of cattle, pigs, goat and sheep	0.5	

Column 1	Column 2	Column 3	Column 4
Metal	Food	Maximum Level (mg/kg)	Note
	Kidney of cattle, pigs, goat and sheep	1	
	Meat of poultry	0.05	Note 1
	Liver of poultry	0.5	
	Kidney of poultry	1	
	Fish	0.1	Note 2
	Crustaceans	2	Note 3
	Bivalve molluscs	2	Note 5
	Cephalopods	2	Note 4
	Gastropods	2	Note 7
	Salt, food grade	0.5	
	Bottled or packaged drinking waters, other than natural mineral waters	0.003	
	Natural mineral waters	0.003	
7. Chromium	Vegetables, other than pulses	0.5	
	Pulses	1	
	Cereals	1	
	Meat of animal	1	Note 1

	Column 1 Metal	Column 2 Food	Column 3 Maximum Level (mg/kg)	Column 4 Note
		Meat of poultry	1	Note 1
		Fish	1	Note 2
		Crabs, prawns and shrimps	1	Note 3
		Oysters	1	
		Bottled or packaged drinking waters, other than natural mineral waters	0.05	
		Natural mineral waters	0.05	
8.	Copper	Bottled or packaged drinking waters, other than natural mineral waters	2	
		Natural mineral waters	1	
9.	Lead	Fruits, other than cranberry, currants and elderberry	0.1	
		Cranberry	0.2	
		Currants	0.2	
		Elderberry	0.2	

Column 1 Metal	Column 2 Food	Column 3 Maximum Level (mg/kg)	Column 4 Note
	Fruit juices, other than fruit juices exclusively from berries and other small fruits	0.03	Note 8
	Fruit juices exclusively from berries and other small fruits	0.05	Note 8
	Canned fruits	0.1	Note 9
	Jams, jellies and marmalades	0.4	
	Table olives	0.4	
	Mango chutney	1	
	Bulb vegetables	0.1	
	Brassica vegetables, other than Brassica leafy vegetables	0.1	
	Fruiting vegetables, Cucurbits	0.05	
	Fruiting vegetables, other than Cucurbits	0.05	

Column 1	Column 2	Column 3	Column 4
Metal	Food	Maximum Level (mg/kg)	Note
	Leafy vegetables (including Brassica leafy vegetables), other than spinach	0.3	
	Legume vegetables	0.1	
	Pulses	0.1	
	Root and tuber vegetables	0.1	
	Edible fungi	1	
	Canned vegetables	0.1	Note 9
	Tomatoes, preserved by heat treatment and hermetically sealed	0.05	
	Pickled cucumbers (also known as cucumber pickles)	0.1	
	Cereal grains, other than buckwheat, cañihua and quinoa	0.2	
	Canned chestnuts and canned chestnuts puree	0.05	
	Coffee beans	0.5	

Column 1	Column 2	Column 3	Column 4
Metal	Food	Maximum Level (mg/kg)	Note
	Coffee beverages	0.2	Note 11
	Meat of cattle, pig, goat and sheep	0.1	Note 1
	Edible offal of cattle	0.5	
	Edible offal of pig	0.5	
	Meat of poultry	0.1	Note 1
	Edible offal of poultry	0.5	
	Poultry eggs	0.2	
	Lime preserved eggs	0.5	
	Aquatic animals, other than fish, crustaceans and bivalve molluscs	1	Notes 6 and 7
	Fish	0.3	Note 2
	Crustaceans	0.5	Note 3
	Bivalve molluscs	1.5	Note 5
	Tea, Green, Black	5	
	Broadleaf Holly leaves	2	
	Dried chrysanthemum	5	

Column 1	Column 2	Column 3	Column 4
Metal	Food	Maximum Level (mg/kg)	Note
	Tea beverages made from Tea, Green, Black	0.2	Note 11
	Milk	0.02	
	Secondary milk products	0.02	Note 10
	Infant formula and follow-up formula	0.01	Note 10
	Edible fats and oils	0.1	
	Fat spreads and blended spreads	0.1	
	Salt, food grade	2	
	Bottled or packaged drinking waters, other than natural mineral waters	0.01	
	Natural mineral waters	0.01	
	Carbonated beverages	0.2	Note 11
	Wine	0.2	
10. Manganese	Natural mineral waters	0.4	

Column 1	Column 2	Column 3	Column 4
Metal	Food	Maximum Level (mg/kg)	Note
11. Mercury (expressed as methyl-mercury)	Fish	0.5	Note 2
12. Mercury (expressed as total mercury)	Vegetables, other than edible fungi	0.01	
	Edible fungi	0.1	
	Rice, husked rice, polished rice, maize, maize flour, wheat, wheat flour	0.02	
	Meat of animal	0.05	Note 1
	Edible offal of animal	0.05	
	Meat of poultry	0.05	Note 1
	Edible offal of poultry	0.05	
	Poultry eggs	0.05	
	Aquatic animals, other than fish	0.5	Notes 3, 4, 5 and 6
	Milk	0.01	
	Secondary milk products	0.01	Note 10
	Salt, food grade	0.1	

Column 1 Metal	Column 2 Food	Column 3 Maximum Level (mg/kg)	Column 4 Note
	Natural mineral waters	0.001	
13. Mercury (expressed as inorganic mercury)	Bottled or packaged drinking waters, other than natural mineral waters	0.006	
14. Nickel	Bottled or packaged drinking waters, other than natural mineral waters	0.07	
	Natural mineral waters	0.02	
15. Selenium	Bottled or packaged drinking waters, other than natural mineral waters	0.04	
	Natural mineral waters	0.01	
16. Tin	Canned foods, other than canned beverages	250	
	Canned beverages	150	Note 11

Column 1 Metal	Column 2 Food	Column 3 Maximum Level (mg/kg)	Column 4 Note
17. Uranium	Bottled or packaged drinking waters, other than natural mineral waters	0.03	

Note 1: Applies to edible portion after removal of bones (if any) and to fat from the meat.

Note 2: Applies to edible portion after removal of the digestive tract.

Note 3: Crabs—applies to whole commodity (including the gonads, liver and other digestive organs) after removal of shell and gills.

Note 4: Cephalopods—applies to edible portion after removal of shell and viscera.

Note 5: Scallops—applies to edible portion after removal of shell and viscera.

Note 6: Sea cucumbers—applies to whole commodity after removal of viscera.

Note 7: Applies to edible portion after removal of shell (if any) and viscera.

Note 8: Applies to fruit juices (not concentrated) or products reconstituted to the original juice concentration that are ready to drink. Also applies to nectars that are ready to drink.

Note 9: Applies to fruits or vegetables (as the case may be).

Note 10: Applies to products that are, or are reconstituted to be, ready to drink.

Note 11: Applies to beverages that are, or are reconstituted to be, ready to drink.".

11. Second Schedule repealed (maximum permitted concentration of certain metals present in specified foods)

Second Schedule—

Repeal the Schedule.

Secretary for Food and Health

2018

Explanatory Note

This Regulation is made under section 55 of the Public Health and Municipal Services Ordinance (Cap. 132) to amend the Food Adulteration (Metallic Contamination) Regulations (Cap. 132 sub. leg. V). The purposes of the Regulation are to—

(a) repeal the maximum permitted concentration of metal naturally present in food;

(b) replace the existing food categories with individual food or food groups;

(c) provide for the maximum level of metal that is allowed to be contained in each food or food groups (***new maximum levels***);

(d) provide for the principles to determine the maximum level of metal in relation to compounded food or food that is in a dried, dehydrated or concentrated form; and

(e) provide for a 12-month grace period in relation to certain food, during which the new maximum levels do not apply.