6 July 2018

Clerk to Panel on Food Safety and Environmental Hygiene
Legislative Council Secretariat
Legislative Council Complex
1 Legislative Council Road
Central, Hong Kong
(Attn.: Miss Josephine SO)
(Fax: 2509 9055)

Dear Miss SO,

Subcommittee on Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018

Follow-up actions arising from the meeting on 26 June 2018

At its meeting on 26 June 2018, the Subcommittee on Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018 (Amendment Regulation) requested the Government to provide supplementary information in writing after the meeting.

Metals are naturally present and ubiquitous in the environment. Metallic contaminants may enter the food supply chain through environmental contamination or during food production process. Food may therefore contain trace amount of metallic contaminants. We would like to reiterate some of our fundamental principles in proposing the Amendment Regulation. One of the objectives of the Amendment Regulation is to align the regulatory requirements for metallic contaminants in food in Hong Kong with the international standards. Standards of the Codex Alimentarius Commission (Codex) are internationally recognised and widely adopted. Therefore, when there are available Codex standards for reference, we would consider adopting the Codex standards first unless there are scientific justifications for adopting a different standard for a food / food group after assessing the food consumption patterns / dietary habits of the local population, as well as the results of the local risk assessment studies and the total diet study (TDS) conducted in the past. The setting of maximum levels (MLs) for metallic contaminants in food should be based on scientific grounds, such that the MLs would be appropriate and adequate for the protection of food safety and public health while striking a balance between safeguarding food safety and food supply.

We set out below the supplementary information requested by the

Subcommittee.

The 144 MLs for metallic contaminants in the Amendment Regulation

Of these 144 proposed MLs, 85 have available Codex standards for reference, whereas 59 do not have available Codex standards for reference.

Among the 85 proposed MLs with available Codex standards for reference mentioned above, two are more stringent than the corresponding Codex standards, namely the proposed MLs for cadmium in polished rice and methylmercury in fish (predatory fish). The remaining proposed MLs are in line with the corresponding Codex standards and none of them is less stringent than the Codex standards.

Of the 144 MLs, 89 are more stringent than the existing maximum permitted concentrations (MPCs)[1], six are less stringent[2] than the existing MPCs, 22 are the same as the existing MPCs, two of them cover food groups which are not comparable with those of the existing MPCs (for example, the proposed ML for cadmium in crustaceans vis-a-vis the existing MPC for crab-meat, prawns and shrimps), and 25 are newly established MLs.

We have established 59 proposed MLs with no available Codex standards as reference since these food / food groups are of significance to the local population. When identifying specific food / food groups which are of significance to the local population, we have taken into account various factors such as the local food consumption pattern / dietary practice, results of local risk assessment studies and TDS conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies. In proposing the MLs of these food / food groups, we have taken into account Codex's principle of as low as reasonably achievable (ALARA) and assessed also whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.

A comparison of the MLs of metal in food in Part 2 of the Schedule to the Amendment Regulation with the existing Food Adulteration (Metallic Contamination) Regulations (Cap. 132V) (existing Regulations) and the Codex standards is at **Annex 1**.

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[1] 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 so as to align with Codex terminology.

[2] Among the 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 (i.e. cadmium in polished rice) is more stringent than the corresponding Codex ML, and one (i.e. cadmium in husked rice) is brought in line with the aforementioned proposed ML for cadmium in polished rice.

The justifications on why the proposed ML for cadmium in polished rice is more stringent than the relevant Codex standard but slightly less stringent than the existing MPC are at **Annex 2**.

The justifications on why the proposed ML for cadmium in leafy vegetables is the same as the relevant Codex standard but slightly less stringent than the existing MPC are at **Annex 3**.

Proposed MLs for "Tea, Green, Black" and dried chrysanthemum

Under the Amendment Regulation, we have proposed MLs of 5 mg/kg for lead in Tea, Green, Black (i.e. tea leaves) and dried chrysanthemum respectively.

As tea leaves and dried chrysanthemums are foods that have gone through a process of drying and dehydration, their levels of metallic contaminants would inevitably be higher than those in fresh leaves and chrysanthemums. The proposed MLs for tea and dried chrysanthemums reflect this situation. Taking tea leaves as an example, a tea leaf sample containing 5 mg/kg of lead is equivalent to about 1.3 mg/kg of lead in fresh leaves. It is worth noting that tea leaves are generally used for brewing tea. Direct consumption of tea leaves is not common. When tea leaves are used for cooking food (such as stir-fried prawns with Longjing tea), the amount that would be consumed is small.

We have proposed a ML of 0.2 mg/kg for lead in tea beverages made from Tea, Green Black.

The Centre for Food Safety had collected more than 400 samples of tea leaves (including dried chrysanthemums) for the testing of lead under its routine food surveillance programme for the period from 2012 to 2017. All of the samples were found to be in compliance with the existing MPC.

Yours sincerely,

(Miss Cherry WONG)
for Secretary for Food and Health

cc.:
Controller, Centre for Food Safety, Food and Environmental Hygiene Department
(Attn.: Dr Samuel YEUNG)
(Fax: 2526 8279)

Annex 1

Comparison of the Maximum Levels of Metal in Food in Part 2 of the Schedule to the Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018 (Amendment Regulation) with the existing Food Adulteration (Metallic Contamination) Regulations (Cap. 132 V) (existing Regulations) and the Codex standards

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
1. Antimony						
Vegetables	1	1				✓
Cereals	1	1				✓
Meat of animal	1	1				✓
Meat of poultry	1	1				✓
Fish	1	1				✓
Crabs, prawns and shrimps	1	1				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Oysters	1	1				✓
Bottled or packaged drinking waters, other than natural mineral waters	0.02	Not available	✓			
Natural mineral waters	0.005	Not available	✓			
2. Arsenic (expressed as total arsenic)						
Vegetables	0.5	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Cereals, other than rice	0.5	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)				✓
Meat of animal	0.5	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)				✓
Edible offal of animal	0.5	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Meat of poultry	0.5	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)				✓
Edible offal of poultry	0.5	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Edible fats and oils, other than fish oil	0.1	1.4 [solid food] / 0.14 [liquid food] (expressed as As_2O_3) / 1.1 [solid food] / 0.1 [liquid food] (expressed as inorganic arsenic)	✓			
Fat spreads and blended spreads	0.1	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)	✓			

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Salt, food grade	0.5	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)	✓			
Bottled or packaged drinking waters, other than natural mineral waters	0.01	0.14 (expressed as As_2O_3) / 0.1 (expressed as inorganic arsenic)	✓			

Food	ML under the Amendment Regulation (mg/kg)	MPC under the existing Regulations (ppm) Note: "ppm" is equivalent to "mg/kg"	Made reference to the corresponding Codex standards			Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Natural mineral waters	0.01	0.14 (expressed as As_2O_3) / 0.1 (expressed as inorganic arsenic)	✓			
3. Arsenic (expressed as inorganic arsenic)						
Husked rice	0.35	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)	✓			

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Polished rice	0.2	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)	✓			
Aquatic animals, other than fish	0.5	10 (expressed as As_2O_3) / 7.9 (expressed as inorganic arsenic)				✓
Fish	0.1	6 (expressed as As_2O_3) / 4.8 (expressed as inorganic arsenic)				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Fish oil	0.1	0.14 (expressed as As_2O_3) / 0.1 (expressed as inorganic arsenic)	✓			
Seaweed	1	1.4 (expressed as As_2O_3) / 1.1 (expressed as inorganic arsenic)				✓
4. Barium						
Bottled or packaged drinking waters, other than natural mineral waters	1.3	Not available	✓			

Food	ML under the Amendment Regulation (mg/kg)	MPC under the existing Regulations (ppm) Note: "ppm" is equivalent to "mg/kg"	Made reference to the corresponding Codex standards			Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Natural mineral waters	0.7	Not available	✓			
5. Boron						
Bottled or packaged drinking waters, other than natural mineral waters	2.4	Not available	✓			
Natural mineral waters	5	Not available	✓			
6. Cadmium						
Bulb vegetables	0.05	0.1	✓			
Brassica vegetables, other than Brassica leafy vegetables	0.05	0.1	✓			
Fruiting vegetables, Cucurbits	0.05	0.1	✓			

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Fruiting vegetables, other than Cucurbits and tomatoes	0.05	0.1	✓			
Leafy vegetables (including Brassica leafy vegetables)	0.2	0.1	✓			
Legume vegetables	0.1	0.1	✓			
Pulses	0.1	0.1	✓			
Root and tuber vegetables	0.1	0.1	✓			
Stalk and stem vegetables	0.1	0.1	✓			
Vegetables unless otherwise specified	0.1	0.1				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Cereals, other than buckwheat, cañihua, quinoa, wheat and rice	0.1	0.1	✓			
Wheat	0.2	0.1	✓			
Husked rice	0.2	0.1				✓
Polished rice	0.2	0.1		✓ [The relevant Codex standard is 0.4 mg/kg]		
Meat of cattle, pigs, goat and sheep	0.05	0.2				✓
Liver of cattle, pigs, goat and sheep	0.5	Not available				✓
Kidney of cattle, pigs, goat and sheep	1	Not available				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Meat of poultry	0.05	0.2				✓
Liver of poultry	0.5	Not available				✓
Kidney of poultry	1	Not available				✓
Fish	0.1	2				✓
Crustaceans	2	2 [crab-meat, prawns and shrimps]				✓
Bivalve molluscs	2	2 [oysters]	✓ [Marine bivalve molluscs (other than oysters and scallops)]			
Cephalopods	2	Not available	✓			
Gastropods	2	Not available				✓
Salt, food grade	0.5	Not available	✓			

Food	ML under the Amendment Regulation (mg/kg)	MPC under the existing Regulations (ppm) Note: "ppm" is equivalent to "mg/kg"	Made reference to the corresponding Codex standards			Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Bottled or packaged drinking waters, other than natural mineral waters	0.003	Not available	✓			
Natural mineral waters	0.003	Not available	✓			
7. Chromium						
Vegetables, other than pulses	0.5	1				✓
Pulses	1	1				✓
Cereals	1	1				✓
Meat of animal	1	1				✓
Meat of poultry	1	1				✓
Fish	1	1				✓
Crabs, prawns and shrimps	1	1				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Oysters	1	1				✓
Bottled or packaged drinking waters, other than natural mineral waters	0.05	Not available	✓			
Natural mineral waters	0.05	Not available	✓			
8. Copper						
Bottled or packaged drinking waters, other than natural mineral waters	2	Not available	✓			
Natural mineral waters	1	Not available	✓			
9. Lead						

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Fruits, other than cranberry, currants and elderberry	0.1	6	✓			
Cranberry	0.2	6	✓			
Currants	0.2	6	✓			
Elderberry	0.2	6	✓			
Fruit juices, other than fruit juices exclusively from berries and other small fruits	0.03	1	✓			
Fruit juices exclusively from berries and other small fruits	0.05	1	✓			
Canned fruits	0.1	6	✓			

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Jams, jellies and marmalades	0.4	6	✓			
Table olives	0.4	6	✓			
Mango chutney	1	6	✓			
Bulb vegetables	0.1	6	✓			
Brassica vegetables, other than Brassica leafy vegetables	0.1	6	✓			
Fruiting vegetables, Cucurbits	0.05	6	✓			
Fruiting vegetables, other than Cucurbits	0.05	6	✓			

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Leafy vegetables (including Brassica leafy vegetables), other than spinach	0.3	6	✓			
Legume vegetables	0.1	6	✓			
Pulses	0.1	6	✓			
Root and tuber vegetables	0.1	6	✓			
Edible fungi	1	6				✓
Canned vegetables	0.1	6	✓			
Tomatoes, preserved by heat treatment and hermetically sealed	0.05	6	✓			

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Pickled cucumbers (also known as cucumber pickles)	0.1	6	✓			
Cereal grains, other than buckwheat, cañihua and quinoa	0.2	6	✓			
Canned chestnuts and canned chestnuts puree	0.05	6	✓			
Coffee beans	0.5	6				✓
Coffee beverages	0.2	1				✓
Meat of cattle, pig, goat and sheep	0.1	6	✓			
Edible offal of cattle	0.5	6	✓			
Edible offal of pig	0.5	6	✓			

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Meat of poultry	0.1	6	✓			
Edible offal of poultry	0.5	6	✓			
Poultry eggs	0.2	6				✓
Lime preserved eggs	0.5	6				✓
Aquatic animals, other than fish, crustaceans and bivalve molluscs	1	6				✓
Fish	0.3	6	✓			
Crustaceans	0.5	6				✓
Bivalve molluscs	1.5	6				✓
Tea, Green, Black	5	6				✓
Broadleaf Holly leaves	2	6				✓
Dried chrysanthemum	5	6				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Tea beverages made from Tea, Green, Black	0.2	1				✓
Milk	0.02	1	✓			
Secondary milk products	0.02	6 [solid food] / 1 [liquid food]	✓			
Infant formula and follow-up formula	0.01	6 [solid food] / 1 [liquid food]	✓			
Edible fats and oils	0.1	6 [solid food] / 1 [liquid food]	✓			
Fat spreads and blended spreads	0.1	6	✓			
Salt, food grade	2	6	✓			

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Bottled or packaged drinking waters, other than natural mineral waters	0.01	1	✓			
Natural mineral waters	0.01	1	✓			
Carbonated beverages	0.2	1				✓
Wine	0.2	1	✓			
10. Manganese						
Natural mineral waters	0.4	Not available	✓			
11. Mercury (expressed as methylmercury)						
Fish	0.5	0.5 (expressed as total mercury)	✓ [Non-predatory fish]	✓ [Predatory fish. The relevant Codex standard is 1 mg/kg]		

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
12. Mercury (expressed as total mercury)						
Vegetables, other than edible fungi	0.01	0.5 (expressed as total mercury)				✓
Edible fungi	0.1	0.5 (expressed as total mercury)				✓
Rice, husked rice, polished rice, maize, maize flour, wheat, wheat flour	0.02	0.5 (expressed as total mercury)				✓
Meat of animal	0.05	0.5 (expressed as total mercury)				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Edible offal of animal	0.05	0.5 (expressed as total mercury)				✓
Meat of poultry	0.05	0.5 (expressed as total mercury)				✓
Edible offal of poultry	0.05	0.5 (expressed as total mercury)				✓
Poultry eggs	0.05	0.5 (expressed as total mercury)				✓
Aquatic animals, other than fish	0.5	0.5 (expressed as total mercury)				✓

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Milk	0.01	0.5 (expressed as total mercury)				✓
Secondary milk products	0.01	0.5 (expressed as total mercury)				✓
Salt, food grade	0.1	0.5 (expressed as total mercury)	✓			
Natural mineral waters	0.001	0.5 (expressed as total mercury)	✓			
13. Mercury (expressed as inorganic mercury)						

Food	ML under the Amendment Regulation (mg/kg)	MPC under the existing Regulations (ppm) Note: "ppm" is equivalent to "mg/kg"	Made reference to the corresponding Codex standards			Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Bottled or packaged drinking waters, other than natural mineral waters	0.006	0.5 (expressed as total mercury)	✓			
14. Nickel						
Bottled or packaged drinking waters, other than natural mineral waters	0.07	Not available	✓			
Natural mineral waters	0.02	Not available	✓			
15. Selenium						
Bottled or packaged drinking waters, other than natural mineral waters	0.04	Not available	✓			

Food	**ML under the Amendment Regulation (mg/kg)**	**MPC under the existing Regulations (ppm)** **Note: "ppm" is equivalent to "mg/kg"**	**Made reference to the corresponding Codex standards**			**Codex has not established relevant standard. However, since the relevant food / food groups are of significance to the local population (factors taken into account include: the local food consumption pattern / dietary practice, results of local risk assessment studies and total diet study conducted in the past, recent food incidents in Hong Kong and other economies, and relevant standards of other economies, etc.), MLs have been proposed with reference to Codex's principle of as low as reasonably achievable (ALARA). We have also assessed whether the proposed MLs are adequate to protect public health and comparable to the MLs adopted by other economies.**
			Same as the corresponding Codex standard	More stringent than the corresponding Codex standard	Less stringent than the corresponding Codex standard	
Natural mineral waters	0.01	Not available	✓			
16. Tin						
Canned foods, other than canned beverages	250	230	✓			
Canned beverages	150	230	✓			
17. Uranium						
Bottled or packaged drinking waters, other than natural mineral waters	0.03	Not available	✓			

Annex 2

Proposed Maximum Level for Cadmium in Polished Rice

The maximum permitted concentration (MPC) for cadmium in the food group "cereals and vegetables" (including polished rice) under the existing Regulations is 0.1 mg/kg. That standard was established by the Government in 1983. Codex did not set any standard for cadmium in polished rice at that time.

2. One of the objectives of the Amendment Regulation is to align the regulatory requirements for metallic contaminants in food in Hong Kong with the international standards. Codex standards are internationally recognised and widely adopted. Therefore, when there are available Codex standards for reference, we would consider adopting the Codex standards first unless there are scientific justifications for adopting a different standard for a food / food group after assessing the food consumption patterns / dietary habits of the local population, as well as the results of the local risk assessment studies and the total diet study (TDS) conducted in the past.

3. Codex established a ML of 0.4 mg/kg for cadmium in polished rice in 2006. However, some member economies had reservation about Codex's decision of establishing a ML of 0.4 mg/kg for cadmium in polished rice, as they considered that Codex had not comprehensively taken into consideration different food intake patterns in some economies and exposure of cadmium to vulnerable groups including children. Some economies of which rice is the staple food did not adopt the relevant Codex standard and set a ML of 0.2 mg/kg for cadmium in polished rice instead (see paragraph 7).

4. In view of the above and the dietary habit of local population, we have established a ML of 0.2 mg/kg for cadmium in polished rice under the Amendment Regulation, which is more stringent than the corresponding Codex standard.

5. Though the ML concerned is slightly less stringent than the existing Regulations (0.1 mg/kg), cadmium is only one of the six metallic contaminants with MLs applicable to polished rice under the Amendment Regulation. The remaining five metallic contaminants are antimony, arsenic, chromium, lead and mercury. We have tightened the standards for arsenic, lead and mercury in the Amendment Regulation. Among the

metallic contaminants in polished rice, inorganic arsenic is of greater concern. The ML for inorganic arsenic in polished rice would be tightened from 1.1 mg/kg under the existing Regulations to 0.2 mg/kg. The standard for lead has been substantially tightened by a factor of 30, from 6 mg/kg under the existing Regulations to 0.2 mg/kg. The MLs for antimony and chromium would remain unchanged. Details are set out in the table below. We consider that the quality of polished rice imported into Hong Kong will be even better in the future.

	MPC under the existing Regulations (ppm) **Note: "ppm" is equivalent to "mg/kg"**	**ML under the Amendment Regulation (mg/kg)**	**Remarks**
More stringent than the standards under the existing Regulations			
1. Arsenic in polished rice	1.4 (As_2O_3) / 1.1 (inorganic arsenic)	0.2 (inorganic arsenic)	Same as Codex standard
2. Lead in cereal grains, other than buckwheat, cañihua and quinoa	6	0.2	Same as Codex standard
3. Mercury in rice, polished rice, husked rice, maize, maize flour, wheat, wheat flour	0.5 (total mercury)	0.02 (total mercury)	
Less stringent than the standards under the existing Regulations			
4. Cadmium in polished rice	0.1	0.2	More stringent than Codex standard (0.4 mg/kg)
Same as the standards under the existing Regulations			
5. Antimony in cereals	1	1	
6. Chromium in cereals	1	1	

6. The rice consumption in Hong Kong has decreased over the years. According to the report of the "First Hong Kong Total Diet Study: Metallic Contaminants", consumption of rice contributed to 6% of the total dietary exposure to cadmium of the Hong Kong population. The total dietary exposures to cadmium of average and high consumers of the population accounted for 33% and 75% of the relevant health-based guidance value (HBGV) respectively[1]. It is unlikely that the health of the general population will be adversely affected by the intake of cadmium arising from rice consumption. Results of our risk assessment based on the local consumption of rice has indicated that setting the ML for cadmium in polished rice at 0.2 mg/kg is adequate to protect public health of the Hong Kong population. As such, taking into account the agreements of the World Trade Organization, there are no strong scientific grounds to maintain the existing MPC for cadmium in polished rice. It would be unnecessarily stringent and beyond what is required for public health protection to continue maintaining the ML for cadmium in polished rice at 0.1 mg/kg.

7. The ML for cadmium in polished rice in the Amendment Regulation is more stringent than or comparable with the MLs adopted by other economies of which rice is the staple food:

ML for cadmium in polished rice (mg/kg)	**International organisations / countries / economies**
0.4	Codex (established the standard in 2006), Japan, Taiwan, Vietnam
0.2	European Union, Korea, the Mainland, Singapore
0.1	Australia, New Zealand (the standard was established before 1999)
No relevant standard	Canada, USA, Thailand

[1] There may be negative impact on health only if the exposure accounts for more than 100% of the HBGV.

Annex 3

Proposed Maximum Level for Cadmium in Leafy Vegetables

The maximum permitted concentration (MPC) for cadmium in the food group "cereals and vegetables" (including leafy vegetables) under the existing Regulations is 0.1 mg/kg. That standard was established by the Government in 1983. Codex did not set any standard for cadmium in leafy vegetables at that time.

2. The ML for cadmium in leafy vegetables in the Amendment Regulation is the same as the corresponding Codex standard and similar to the MLs adopted by other economies:

ML for cadmium in leafy vegetables (mg/kg)	International organisations / countries / economies
0.2	Codex, European Union, the Mainland, Korea, Singapore, Taiwan
0.1	Australia, New Zealand (the standard was established before 1999)
No relevant standard	USA, Canada, Japan

3. According to the results of the "First Hong Kong Total Diet Study: Metallic Contaminants", the total dietary exposures to cadmium of average and high consumers of the population accounted for 33% and 75% of the relevant HBGV respectively[1]. It is unlikely that the health of the general population will be adversely affected by the intake of cadmium in food. As such, taking into account the agreements of the World Trade Organization, there are no strong scientific grounds to propose a standard for cadmium in leafy vegetables which is more stringent than that of Codex.

4. In addition to cadmium in leafy vegetables, the Amendment Regulation also regulates other metallic contaminants in vegetables. Most of the MLs for metallic contaminants on vegetables are tightened (see the table below). We consider that the overall quality of vegetables will be even better in the future.

[1] There may be negative impact on health only if the exposure accounts for more than 100% of the HBGV.

	MPC under the existing Regulations (ppm) Note: "ppm" is equivalent to "mg/kg"	ML under the Amendment Regulation (mg/kg)	Remarks
More stringent than the standards under the existing Regulations			
1. Arsenic in vegetables	1.4 (As_2O_3) / 1.1 (Inorganic arsenic)	0.5 (Total arsenic)	Without relevant Codex standard
2. Cadmium in bulb vegetables[2]	0.1	0.05	Same as Codex standard
3. Cadmium in Brassica vegetables[3], other than Brassica leafy vegetables	0.1	0.05	Same as Codex standard
4. Cadmium in fruiting vegetables, Cucurbits	0.1	0.05	Same as Codex standard
5. Cadmium in fruiting vegetables, other than Cucurbits and tomatoes	0.1	0.05	Same as Codex standard
6. Chromium in vegetables, other than pulses	1	0.5	Without relevant Codex standard
7. Lead in bulb vegetables	6	0.1	Same as Codex standard
8. Lead in Brassica vegetables, other than Brassica leafy vegetables	6	0.1	Same as Codex standard

[2] Examples of bulb vegetables include onion, garlic, welsh onion, etc.

[3] Examples of Brassica vegetables include broccoli, cauliflower, cabbage, Brussels sprouts, etc.

	MPC under the existing Regulations (ppm) Note: "ppm" is equivalent to "mg/kg"	ML under the Amendment Regulation (mg/kg)	Remarks
9. Lead in fruiting vegetables, Cucurbits	6	0.05	Same as Codex standard
10. Lead in fruiting vegetables, other than Cucurbits	6	0.05	Same as Codex standard
11. Lead in leafy vegetables (including Brassica leafy vegetables), other than spinach	6	0.3	Same as Codex standard
12. Lead in legume vegetables	6	0.1	Same as Codex standard
13. Lead in pulses	6	0.1	Same as Codex standard
14. Lead in root and tuber vegetables	6	0.1	Same as Codex standard
15. Lead in edible fungi	6	1	Without relevant Codex standard
16. Mercury in vegetables, other than edible fungi	0.5 (total mercury)	0.01 (total mercury)	Without relevant Codex standard
17. Mercury in edible fungi	0.5 (total mercury)	0.1 (total mercury)	Without relevant Codex standard
Less stringent than the standards under the existing Regulations			
18. Cadmium in leafy vegetables (including Brassica leafy vegetables)	0.1	0.2	Same as Codex standard
Same as the standards under the existing Regulations			
19. Antimony in vegetables	1	1	Without relevant Codex standard

	MPC under the existing Regulations (ppm) Note: "ppm" is equivalent to "mg/kg"	ML under the Amendment Regulation (mg/kg)	Remarks
20. Cadmium in legume vegetables	0.1	0.1	Same as Codex standard
21. Cadmium in pulses	0.1	0.1	Same as Codex standard
22. Cadmium in root and tuber vegetables	0.1	0.1	Same as Codex standard
23. Cadmium in stalk and stem vegetables	0.1	0.1	Same as Codex standard
24. Cadmium in vegetables unless otherwise specified	0.1	0.1	Without relevant Codex standard
25. Chromium in pulses	1	1	Same as Codex standard