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Paper for the House Committee

**Report of the Subcommittee on Food Adulteration
(Metallic Contamination) (Amendment) Regulation 2018**

Purpose

This paper reports on the deliberations of the Subcommittee on Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018.

Background

2. Currently, 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, present in food.

3. According to the Legislative Council ("LegCo") Brief (File Ref.: FHB/F/5/1/8/2) issued by the Food and Health Bureau ("FHB") in June 2018, the Administration has all along been making reference to the then standards of the Codex Alimentarius Commission ("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; and various other economies have also revised their standards on metallic contamination, taking into account the evolving Codex standards, the occurrence data of metallic contamination in foods, the food consumption patterns/dietary practices of their own economies, as well as their risk assessment results, etc.

4. FHB and the Centre for Food Safety ("CFS") have conducted a review of the Regulations, taking into account Codex's latest standards on metallic contamination, relevant standards of other economies, local food consumption pattern/dietary practices and the results of CFS' risk assessment. With a view to better protecting public health, facilitating effective regulation and aligning Hong Kong's standards with international standards, the Administration proposes to enhance and update the Regulations.

Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018 (L.N. 113 of 2018)

5. On 8 June 2018, the Administration published in the Gazette the Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018 ("the Amendment Regulation"). The Amendment Regulation is made by the Secretary for Food and Health under section 55 of the Public Health and Municipal Services Ordinance (Cap. 132) to amend the Regulations to revise the standards for metallic contamination in food.

6. The Amendment Regulation substitutes the First Schedule to the Regulations with a new Schedule which, among others, sets out the maximum levels ("MLs") for 14 metallic contaminants in food, and repeals the Second Schedule. Those 14 metallic contaminants, include, in addition to the existing seven metallic contaminants (see paragraph 2(b) above), barium, boron, copper, manganese, nickel, selenium and uranium. The new Schedule replaces the existing food categories of "all food in solid form" and "all food in liquid form" with individual food or food groups. The Amendment Regulation also provides the principles for interpreting MLs of metallic contaminants in relation to compounded food or food that is in a dried, dehydrated or concentrated form.

7. The Amendment Regulation was tabled before LegCo on 13 June 2018 and is subject to the negative vetting procedure. The Amendment Regulation will come into operation on 1 November 2019. The new standards for metallic contaminants will first take effect for certain types of fresh foods (i.e. fresh fruits and vegetables and their juice, fresh meat and edible offal of animals and poultry, aquatic animals and poultry eggs) on 1 November 2019. For other food types, the new standards will take effect on 1 November 2020.

The Subcommittee

8. At the House Committee meeting on 15 June 2018, Members formed a subcommittee to study the Amendment Regulation. The membership list of the Subcommittee is in the **Appendix**. Under the chairmanship of Mr Steven HO, the Subcommittee has held one meeting with the Administration.

9. The scrutiny period of the Amendment Regulation has been extended from the Council meeting of 11 July 2018 to the first Council meeting of the 2018-2019 session by a resolution of the Council passed at its meeting of 4 July 2018.

Deliberations of the Subcommittee

Justifications for establishing the 144 MLs

10. Members of the Subcommittee generally welcome and support the direction of enhancing and updating the Regulations. Noting that the Administration has followed the Codex standards on metallic contamination, members have sought detailed information on how the 144 MLs are established. While there are views that the standards should be as stringent as possible, there are also views that it is necessary to strike a balance between safeguarding food safety and food supply.

11. According to the Administration, 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. The Codex standards are internationally recognized and adopted. Hence, when there are available Codex standards for reference, the Administration would consider adopting the Codex standards first unless there are strong 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 local risk assessment studies and total diet study conducted in the past. The Administration has advised that keeping the Regulations abreast of the Codex standards will safeguard food safety, bring Hong Kong's regulatory practices in alignment with international standards and prevent possible trade barriers and disputes.

12. The Administration has also advised that it is a common practice that economies worldwide establish MLs for food/food groups which are of significance to their local population and where there is no relevant Codex MLs. Under the current exercise, the Administration has established 59 MLs with no available Codex standards as reference since these specific food/food groups

are of significance to the Hong Kong population. When establishing these 59 MLs, the Administration has taken into consideration the "as low as reasonably achievable" principle of Codex and has assessed whether the proposed MLs are adequate to protect public health and comparable to MLs adopted by other economies.

MLs of metallic contamination for individual food/food groups

13. While members do not have particular views nor concerns on most of the 144 MLs for specific metallic contaminants in specific food/food groups as set out in the Amendment Regulation, there have been views on a few MLs.

Cadmium in polished rice and leafy vegetables

14. Dr Helena WONG strongly considers that the Administration should keep the existing MPCs of 0.1 mg/kg for cadmium in polished rice and leafy vegetables intact, as the new standards will, in her view, expose the general population to a higher health risk. Expressing objection to relaxing the standards from 0.1 mg/kg to 0.2 mg/kg, she calls on the Administration to consider reverting MLs for cadmium in these two food items to 0.1 mg/kg, or else she will consider moving amendments to the Amendment Regulation to that effect.

15. The Administration has advised that, under the Amendment Regulation, cadmium is only one of the six metallic contaminants with MLs applicable to polished rice. The other five metallic contaminants are antimony, arsenic, chromium, lead and mercury. Among the metallic contaminants in polished rice, inorganic arsenic is of greater concern, not cadmium. The Administration also points out that, while the standard for cadmium will be slightly relaxed, the standards for arsenic, lead and mercury will be tightened and the prevailing standards for antimony and chromium will be maintained as follows:

	MPCs set out in the Regulations (ppm)	MLs set out in the Amendment Regulation (mg/kg)	Comparison with the corresponding Codex ML
<i>More stringent than existing standard</i>			
1. Arsenic in polished rice	1.4 (As ₂ O ₃) / 1.1 (inorganic arsenic)	0.2 (inorganic arsenic)	Same
2. Lead in cereal grains	6	0.2	Same

3. Mercury in rice, husked rice, polished rice, maize, maize flour, wheat, wheat flour	0.5 (total mercury)	0.02 (total mercury)	No relevant Codex ML
<i>Less stringent than existing standard</i>			
4. Cadmium in polished rice	0.1	0.2	More stringent than Codex ML (0.4 mg/kg)
<i>Same as existing standard</i>			
5. Antimony in cereals	1	1	No relevant Codex ML
6. Chromium in cereals	1	1	No relevant Codex ML

16. The Administration has further advised that the existing MPC of 0.1 mg/kg for cadmium in the food group "cereals and vegetables" (including polished rice) as laid down in the Regulations was established in 1983. At that time, Codex did not set any standard for cadmium in polished rice. The Administration had hence made reference to the standards adopted by other economies (e.g. Australia, Japan, Singapore, the United Kingdom and the United States of America ("USA")) as well as the available data on the metallic concentrations in various foodstuffs. The current standards for cadmium in polished rice adopted by Codex and other economies are as follows:

ML for cadmium in polished rice (mg/kg)	International organization/ country/economy
0.4	Codex, Japan, Taiwan, Vietnam
0.2	The European Union, Korea, the Mainland, Singapore
0.1	Australia, New Zealand
No relevant standard	Canada, USA, Thailand

17. The new ML for cadmium in polished rice in the Amendment Regulation (i.e. 0.2 mg/kg) is thus more stringent than the relevant Codex standard which was adopted in 2006. According to the information the Administration has gathered, among the countries/economies that have established MLs for

cadmium in polished rice, only Australia and New Zealand have maintained an ML of 0.1 mg/kg and their standards were established before 1999. Economies whose people rely on polished rice as a major component of their diets have adopted the Codex standard of 0.4 mg/kg (e.g. Japan, Taiwan and Vietnam) or a more stringent standard of 0.2 mg/kg as the Administration now adopts (e.g. the Mainland, Korea and Singapore), while some do not have an ML (e.g. Thailand).

18. According to the Administration, 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")¹ respectively. The Administration explains that there may be negative impact on health only if the exposure accounts for more than 100% of HBGV. It is therefore unlikely that the health of the general population will be adversely affected by the intake of cadmium arising from rice consumption. Results of the Administration's risk assessment based on the local consumption of rice have indicated that setting ML for cadmium in polished rice at 0.2 mg/kg is adequate to protect public health. Taking into account the above factors, the Administration considers that an ML of 0.2 mg/kg is appropriate. It will be unnecessarily stringent and beyond what is required for public health protection to continue maintaining an ML for cadmium in polished rice at 0.1 mg/kg.

19. According to the Administration, MPC for cadmium in the food group "cereals and vegetables" (including leafy vegetables) under the existing Regulations is 0.1 mg/kg. At the time when the standard was established, Codex did not set any standard for cadmium in leafy vegetables. ML for cadmium in leafy vegetables in the Amendment Regulation is the same as the corresponding Codex standard which was adopted in 2005 and similar to MLs adopted by other economies:

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

¹ HBGV is an estimate of the amount of a chemical that can be ingested over a defined time period (e.g. 24 hours or lifetime) without any appreciable health risks, for example, acute reference dose, acceptable daily intake, provisional tolerable monthly intake, etc.

20. Having regard to the total dietary exposures to cadmium of average and high consumers of the population as set out in paragraph 18 above, it is unlikely that the health of the general population will be adversely affected by the intake of cadmium in food. As such, there are no strong scientific grounds for the Administration to set a standard for cadmium in leafy vegetables which is more stringent than that of Codex.

Lead and total mercury in edible fungi

21. Mr SHIU Ka-fai has sought clarification on whether the regulatory control of metallic contamination in edible fungi in a dried or dehydrated form is covered under the existing Regulations. According to his understanding, the Administration has not specifically consulted the relevant trade association, i.e. Hong Kong Dried Sea Food & Grocery Merchants Association Limited ("the Association"), on the new MLs. He has informed the Subcommittee that the Association has commissioned a laboratory to test the metallic contamination in edible fungi on sale in the market, with a view to assessing the possible impact of the new MLs for metallic contaminants on the future supply of relevant food.

22. The Administration has explained that a public consultation exercise was conducted on the proposed amendments to the Regulations from 6 June to 5 September 2017. The Administration has consulted members of the food trade extensively, including attending the meeting of the Wholesale and Retail Task Force under the Business Facilitation Advisory Committee, and holding various public forums and trade consultation forums to listen to the views of the trade and other stakeholders. While the Administration has not been aware of the Association's concern earlier on, it will contact the Association to understand its concern.

23. Dr Helena WONG and Mr SHIU Ka-fai have enquired how the level of a specified metal is to be interpreted, in case the food products have gone through a process of drying, dehydration or concentration. The Administration has advised that MLs, in general, are established for primary agricultural commodities and are expressed on a fresh weight basis. To interpret the level of metallic concentration in food that is in a dried, dehydrated or concentrated form, ML of a specified metal in the food will be proportionally adjusted according to the change in the concentration of the metal in the food caused by the production process concerned. The trade is familiar with the measurement method because this is not a new requirement and the Administration has provided guidelines to the trade. The Administration will continue to provide relevant guidelines to the trade on the application of MLs to food in a dried, dehydrated or concentrated form.

Defences

24. Mr Steven HO is of the view that persons who are tasked to "consign" or "deliver" food products should not be held liable for supplying food containing excessive MLs under the new regulations 3(1) and 3AA(1). He has enquired about the defences available to such persons.

25. In response, the Administration has advised that if the defendant can prove that the contravention of the new regulations 3(1) or 3AA(1) is due to the act or default of some other persons, and that he/she has exercised all due diligence to secure that the provisions in question are complied with, defences under section 70 of the Public Health and Municipal Services Ordinance would be available to the defendant.

Recommendation

26. The Subcommittee raises no objection and will not propose any amendment to the Amendment Regulation. Dr Helena WONG has, however, indicated intention to propose amendment to MLs for cadmium in polished rice and leafy vegetables (paragraph 14 above refers).

Advice Sought

27. Members are invited to note the deliberations of the Subcommittee.

Council Business Division 2
Legislative Council Secretariat
23 July 2018

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

Membership list

Chairman Hon Steven HO Chun-yin, BBS

Deputy Chairman Dr Hon Helena WONG Pik-wan

Members Dr Hon KWOK Ka-ki
 Hon HO Kai-ming
 Hon SHIU Ka-fai
 Hon LAU Kwok-fan, MH

(Total : 6 members)

Clerk Miss Josephine SO

Legal Adviser Ms Clara TAM

Date 26 June 2018