

# Proposed Amendments to the Preservatives in Food Regulation (Cap. 132BD)

**Food Safety Seminar for Trade**  
**7 December 2023**

# Outline

- **Background**
- **Proposed amendments**

# Background

# Chief Executive's 2022 Policy Address

- One of the Policy Measures
  - To review and update by phases the food safety legislation relating to additives in food
  - To further enhance food safety
- The first phase
  - To review the standards for preservatives and antioxidants under the Preservatives in Food Regulation (Cap. 132BD)



# Regulation of preservatives and antioxidants in Hong Kong

- Preservatives in Food Regulation (Cap. 132BD)
  - Regulates the use of preservatives and antioxidants in food
  - Adopts a positive list approach to regulate
    - ✓ Any food being imported, manufactured for sale or sold
    - ✓ Only contain the specified permitted preservative or antioxidant
    - ✓ In the proportion that does not exceed the specified maximum permitted level (MPL)

# Regulation of preservatives and antioxidants in Hong Kong

Cap. 132BD (Schedule 1)

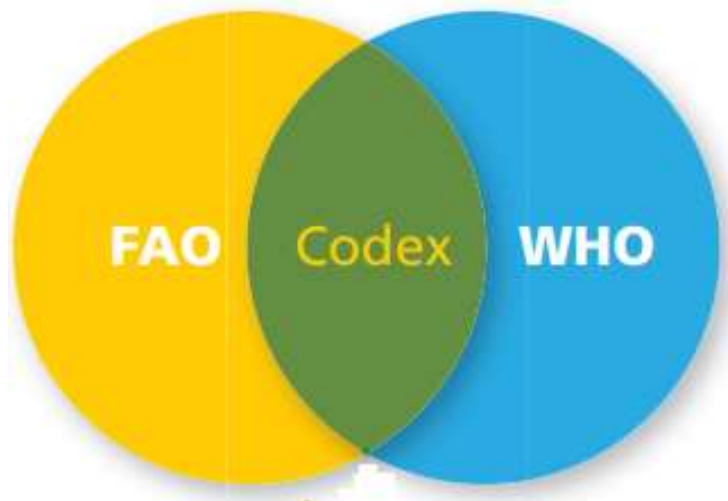
Adopt a “**positive list**” approach to regulate

Clearly listed the preservative or antioxidant permitted for use in food

Column 1	Column 2	Column 3	Column 4		
No.	Food category or sub-category	Permitted food additives		Maximum permitted level (ppm, unless otherwise specified)	Note
		INS no.	Name		
4.5	Canned or bottled (pasteurized or heat-sterilized)	210	Benzoic acid	800	Note 20
		214	Ethyl para—hydroxybenzoate	800	Note 20
		218	Methyl para—hydroxybenzoate	800	Note 20
		220	Sulphur dioxide	350	Note 10
		512	Stannous chloride	20	Note 11
4.6	Jams, jellies, marmalades	200	Sorbic acid	1000	Note 18
		218	Ethyl para—hydroxybenzoate	500	Note 18
		220	Sulphur dioxide	100	Note 10
		386	Disodium ethylene diamine tetraacetate	130	Note 9

Clearly listed the specified maximum permitted level

# Codex Alimentarius Commission



# Codex Alimentarius Commission

- Established by FAO and WHO in 1960s
  - 188 member countries and 1 member organisation (the European Union (EU))
  - Codex standards are developed through thorough discussion among its members and adopted by consensus
- International food standards, code of practice
  - Protecting consumer health
  - Ensuring fair international food trade (removing barriers to trade)
  - Recognised by the World Trade Organization as the standard-setting body for food safety
  - The most important international reference



# Codex Committee on Food Additives

- All additives included in the Codex General Standard for Food Additives (GSFA) (including preservatives and antioxidants)



- Undergone stringent evaluation
- Acceptable for use in foods

Not represent a hazard to health

# General Standard for Food Additives

- Food additives (including preservatives and antioxidants)

- Specifies maximum use levels in food:

(Feature 1) Specify “maximum use level”

Different functional classes

“Maximum level” expressed in numerical values

ETHYLENE DIAMINE TETRA ACETATES		Functional Class: Antioxidant, Colour retention agent, Preservative, Stabilizer	
FoodCatNo	FoodCategory	MaxLevel	Notes
02.2.2	Fat spreads, dairy fat spreads and blended spreads	100 mg/kg	21
04.1.2.2	Dried fruit	265 mg/kg	21
04.1.2.3	Fruit in vinegar, oil, or brine	250 mg/kg	21
04.1.2.5	Jams, jellies, marmelades	130 mg/kg	21
04.1.2.6	Fruit-based spreads (e.g. chutney) excluding products of food category 04.1.2.5	100 mg/kg	21
04.1.2.10	Fermented fruit products	250 mg/kg	21
04.1.2.11	Fruit fillings for pastries	650 mg/kg	21
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	100 mg/kg	21 & 110



# General Standard for Food Additives

- Food additives (including preservatives and antioxidants)

- Specifies maximum use levels in food:

(Feature 2) Use level expressed as “GMP”

“Maximum use level” not necessary expressed in numerical value

**JECFA** evaluated the additives

- ✓ Not represent a hazard to health

**Codex Alimentarius Commission**

- ✓ Not necessary to express “Maximum use level” in numerical value
- ✓ The use of the additives should follow GMP principles

## CARBON DIOXIDE

FoodCategory	MaxLevel
Fermented milks (plain), heat-treated after fermentation	GMP
Renneted milk (plain)	GMP
Sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	GMP
Peeled or cut fresh fruit	GMP
Fresh pastas and noodles and like products	GMP
Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	GMP

**Same features**

- ✓ Standards of the Mainland and other major food trading partners

# Proposed amendments

# Proposed amendments

- Principles:
  - Keeps the Codex standards as the backbone
  - Supplemented with relevant standards of the Mainland and other major trading partners
  
- Major areas of the proposed amendments:
  - a) To update the definitions of “preservatives” and “antioxidants”
  - b) To update the permitted preservatives / antioxidants in the “positive list”
  - c) To update / stipulate the MPLs of the permitted preservatives and antioxidants
    - including the list of GMP additives
    - i.e. additives that are acceptable for use in food in general when used as *quantum satis* levels and in accordance with the principles of GMP

# Proposed updated definition of preservative

Preservative (防腐劑) means any substance, not normally consumed as a food by itself nor normally used as a typical ingredient of the food, which is added to, or used in or on, food at any food processing stage to prolong its shelf-life by protecting against deterioration caused by microorganisms,

but does not include —

- (a) common salt (sodium chloride);
- (b) sugars;
- (c) alcohol or potable spirits, isopropyl alcohol, monoacetin;
- (d) herbs or hop extract;
- (e) spices or essential oils when used for flavouring purposes;
- (f) any substance added to food by the process of curing known as smoking; or
- (g) any vitamins and minerals added to food as nutrients.

Reference to Codex standard

# Proposed updated definition of antioxidant

Antioxidant (抗氧化劑) means any substance, not normally consumed as a food by itself nor normally used as a typical ingredient of the food, which is added to, or used in or on, food at any food processing stage to prolong its shelf-life by protecting against deterioration caused by oxidation, but does not include any vitamins and minerals added to food as nutrients.



Reference to Codex standard



# To update the permitted preservatives / antioxidants in the “positive list”

- Keeps Codex standards as the backbone, supplemented with relevant standards of the Mainland and other major food trading partners

	No. of preservatives / antioxidants under existing Cap. 132BD:	<b>32</b>
+	No. of new preservatives / antioxidants	<b>29 (25+4)</b>
-	No. of preservatives / antioxidants removed from existing Cap. 132BD:	<b>3</b>
Total no. of proposed preservatives / antioxidants:		<b>58</b>

- All newly added preservatives and antioxidants
  - JECFA has conducted stringent evaluation; not represent a hazard to health
- 3 preservatives to be removed (copper carbonate, diphenyl, formic acid)
  - Safe, not represent a hazard to health
  - There are suitable alternatives



## Comparison of existing Cap. 132BD and proposed amendments: permitted preservatives and antioxidants

Preservatives and antioxidants permitted under existing Cap. 132BD	<u>Additional</u> preservatives and antioxidants permitted under proposed amendments
<ol style="list-style-type: none"> <li>1. Benzoates</li> <li>2. Butylated hydroxyanisole (BHA)</li> <li>3. Butylated hydroxytoluene (BHT)</li> <li>4. Calcium propionate</li> <li>5. Dimethyl dicarbonate</li> <li>6. Dodecyl gallate</li> <li>7. Ethoxyquin</li> <li>8. Ethylenediaminetetraacetates</li> <li>9. Ferrous gluconate</li> <li>10. Guaiac resin</li> <li>11. Hexamethylene tetramine</li> <li>12. Hydroxybenzoates, para-</li> <li>13. Isopropyl citrates</li> <li>14. Lysozyme</li> <li>15. Natamycin (pimaricin)</li> <li>16. Nisin</li> <li>17. Nitrates</li> <li>18. Nitrites</li> <li>19. Octyl gallate</li> <li>20. ortho-Phenylphenols</li> <li>21. Potassium propionate</li> <li>22. Propionic acid</li> <li>23. Propyl gallate</li> <li>24. Sodium propionate</li> <li>25. Sorbates</li> <li>26. Stannous chloride</li> <li>27. Sulphites</li> <li>28. Tertiary butylhydroquinone (TBHQ)</li> <li>29. Thiodipropionates</li> <li>30. <del>Copper carbonate (proposed to remove)</del></li> <li>31. <del>Diphenyl (proposed to remove)</del></li> <li>32. <del>Formic acid (proposed to remove)</del></li> </ol>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">GMP additives</div> <ol style="list-style-type: none"> <li>1. Acetic acid, glacial</li> <li>2. Ascorbic acid, L-</li> <li>3. Ascorbyl esters</li> <li>4. Calcium acetate</li> <li>5. Calcium ascorbate</li> <li>6. Calcium lactate</li> <li>7. Carbon dioxide</li> <li>8. Citric acid</li> <li>9. Citric and fatty acid esters of glycerol</li> <li>10. Erythorbic acid (isoascorbic acid)</li> <li>11. Glucose oxidase</li> <li>12. Lecithins</li> <li>13. Nitrous oxide</li> <li>14. Phosphates</li> <li>15. Potassium acetate</li> <li>16. Potassium lactate</li> <li>17. Sodium acetate</li> <li>18. Sodium ascorbate</li> <li>19. Sodium diacetate</li> <li>20. Sodium erythorbate (sodium isoascorbate)</li> <li>21. Sodium lactate</li> <li>22. Tartrates</li> <li>23. Tocopherols</li> <li>24. Tricalcium citrate</li> <li>25. Tripotassium citrate</li> <li>26. Benzoyl peroxide (Newly added from Codex standard)</li> <li>27. Lauric arginate ethyl ester (Newly added from Codex standard)</li> <li>28. Rosemary extract (Newly added from other standards)</li> <li>29. Stearyl citrate (Newly added from Codex standard)</li> </ol>

# To update maximum permitted levels

- Keep Codex standards as the backbone, supplemented with relevant standards of the Mainland and other major food trading partners
  - No. of MPLs increased from some 900 to around 2000
  - To update the food category system in light of the latest Codex GSFA
  - Same as existing Cap. 132BD, when applying the permitted food additive in food, no matter if it is used as preservative / antioxidant or not, its level should not exceed the relevant standard

Existing regulation

Column 1		Column 2		Column 3	Column 4
No.	Food category or sub-category	Permitted food additives		Maximum permitted level (ppm, unless otherwise specified)	Note
		INS no.	Name		
13.5	Fruit nectar	200	Sorbic acid	1000	Note 18
		210	Benzoic acid	800	Note 18
		214	Ethyl para—hydroxybenzoate	800	Note 18
		218	Methyl para—hydroxybenzoate	800	Note 18
		220	Sulphur dioxide	50	



# Column 4 – Notes to MPL (1)

- Provide information regarding the expression of the MPL for specific additives, e.g.

	Preservative or antioxidant	Expression of MPL	Relevant note in Column 4
1	Ascorbyl esters	As ascorbyl stearate.	13
2	Benzoates	As benzoic acid.	6
3	Ethylenediaminetetraacetates	As anhydrous calcium disodiummethylenediaminetetraacetate.	42
4	Ferrous gluconate	As iron.	68
5	Hexamethylene tetramine	As formaldehyde	24
6	Hydroxybenzoates, para-	As para-hydroxybenzoic acid.	26
7	Nitrates	As residual NO <sub>3</sub> ion.	18
8	Nitrites	As residual NO <sub>2</sub> ion.	20
9	Phosphates	As phosphorus.	1
10	Propionic acid and its calcium and sodium salt	As the acid.	27
11	Sorbates	As sorbic acid.	9
12	Stannous chloride	As tin.	51
13	Sulphites	As residual sulphur dioxide.	30
14	Tartrates	As tartaric acid.	10
15	Thiodipropionic acid	As thiodipropionic acid.	37

**Existing Cap. 132BD:  
As NaNO<sub>3</sub> / NaNO<sub>2</sub>**

# Column 4 – Notes to MPL (2)

- To specify that the MPL applies to certain products of the food category / sub-category, e.g.

Column 1		Column 2		Column 3	Column 4
No.	Food category or sub-category	Permitted food additives		Maximum permitted level	Note
		INS <sup>5</sup> no.	Name		
4.1.1.2	Surface-treated fresh fruit	231, 232	Ortho-phenylphenols	12	Note 46

Note 46 For use on citrus fruits only.

- To specify that the MPL does not apply to certain products of the food category / sub-category, e.g.

Column 1		Column 2		Column 3	Column 4
No.	Food category or sub-category	Permitted food additives		Maximum permitted level	Note
		INS <sup>5</sup> no.	Name		
4.1.2.4	Canned or bottled (pasteurized or heat-sterilized) fruit	512	Stannous chloride	20	Note 51 and Note 52

Note 52 Excluding canned pears and canned pineapples.

# Set out GMP additives in a separate list

- Proposed with reference to the Codex GSFA
  - JECFA conclusion: not represent a hazard to health
  - MPLs not necessary expressed in numerical values
  - Acceptable for use when used at *quantum satis* levels and in accordance with GMP principles
  - Includes 24 preservatives / antioxidants
  - Specify a list that such general use is not applicable to certain food categories or individual food items

# List of GMP Additives after the Amendments

Item	INS no.	Name
1	260	Acetic acid, glacial
2	300	Ascorbic acid, L-
3	263	Calcium acetate
4	302	Calcium ascorbate
5	327	Calcium lactate
6	282	Calcium propionate
7	290	Carbon dioxide
8	330	Citric acid
9	472c	Citric and fatty acid esters of glycerol
10	315	Erythorbic acid (isoascorbic acid)
11	1102	Glucose oxidase
12	322	Lecithins

Item	INS no.	Name
13	942	Nitrous oxide
14	261(i)	Potassium acetate
15	326	Potassium lactate
16	283	Potassium propionate
17	280	Propionic acid
18	262(i)	Sodium acetate
19	301	Sodium ascorbate
20	316	Sodium erythorbate (sodium isoascorbate)
21	325	Sodium lactate
22	281	Sodium propionate
23	333(iii)	Tricalcium citrate
24	332(ii)	Tripotassium citrate

Total: 24 additives

See Annex V of the Consultation Document



# List of Food Categories that the GMP Additives are still Governed by the Relevant Proposed MPLs (if available) in the Amended Cap. 132BD

No.	Food category
1.1.1	Fluid milk (plain), including skimmed, partly skimmed and whole milk
1.1.2	Other fluid milk (plain) (e.g. plain reconstituted fluid milks, non-flavoured vitamin and mineral fortified fluid milks, lactose reduced milk and plain milk-based beverages), excluding products of food categories 1.1.1, 1.1.3 and 1.2 and their sub-categories (if applicable)
1.1.3	Fluid buttermilk (plain)
1.2	Fermented and renneted milk products (plain), excluding flavoured products of food category 1.1.4 and its sub-categories (if applicable), and desserts of food category 1.7 and its sub-categories (if applicable)
1.2.1	Fermented milks (plain)
1.2.1.1	Fermented milks (plain), not heat-treated after fermentation
1.2.1.2	Fermented milks (plain), heat-treated after fermentation
1.2.2	Renneted milk (plain), excluding flavoured renneted milk products of food category 1.7 and its sub-categories (if applicable)

1.1.4  
not  
listed

i.e. GMP additives can be applied to the food sub-category "1.1.4 Flavoured fluid milk drinks"



# Regarding labelling issue

Ingredient: mixed fruits  
(strawberry, raspberry, blueberry),  
acetic acid (acidity regulator)



The trade may apply the additive in food in order to **achieve the intended technical effect**, and label its “functional class” on the product label as appropriate.

# Transitional period (1)

- A transitional period after enactment of the amended legislation has been proposed
  - Allow adequate time for the trade to get prepared for the updated standards and local laboratories to build up testing capacities
  - The length of the transition period is subject to further review of the views received during the public consultation
- Will update the “Preservatives and Antioxidants User Guidelines”
  - To assist the trade to better understand that amendments and facilitate their compliance

# Transitional period (2)

- During the transitional period
  - It is legally in order for any single food item to comply with the relevant standards in either the existing Cap. 132BD or the amended Regulation
  - After this transitional period, all food sold in Hong Kong shall have to comply with the amended Regulation
  - The above proposal is the same as the transitional arrangement in Preservatives in Food (Amendment) Regulation 2008

# Way forward

- One of the policy measures under the Chief Executive's 2023 Policy Address
  - Complete the legislative amendment exercise to update the food safety standards for preservatives and antioxidants in food within 2024
- Already convened Technical Meeting with Trade to discuss technical details relevant to the proposed amendments

# Thank you