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## Thailand

Post: Bangkok

## Thai FDA Proposed Revisions to MLs of Certain Food Additives

## Report Categories:

Sanitary/Phytosanitary/Food Safety

## Approved By:

Bobby Richey, Agricultural Counselor

## Prepared By:

Sukanya Sirikeratikul, Marketing Specialist

## Report Highlights:

TH6005 On January 8, the Thai Food and Drug Administration (FDA) notified WTO (G/SPS/N/THA/234) about proposed revisions to maximum levels (ML) for certain food additives. This proposal affects all products that use sweeteners, colorings and preservatives. Comments from industry and concerned stakeholders should be directed to the National Bureau of Agricultural Commodity and Food Standards (ACFS), national SPS enquiry point at spsthailand @ gmail.com prior to the March 8. Note Annex 2 to this report only includes those proposed MLs that differ from established CODEX MLs.

## General Information:

## Thai FDA Proposed Revisions to Maximum Levels of Certain Food Additives

On January 8, the Thai Food and Drug Administration (FDA) notified WTO (G/SPS/N/THA/234) about proposed revisions to maximum levels (ML) for certain food additives. The proposal, entitled "The Notification of the Ministry of Public Health Regarding Food Additives No. 4, (Notification No. 4)" aligns the format of the existing regulations governing food additives with the established CODEX format, and adopts standardized Codex food categories. Specifically, the proposal would 1) prescribe/establish the conditions and instances where certain food additives will be permitted, and 2) revise MLs for certain food additives where intake of such food additives from all its uses exceeded its Acceptable daily intake (ADI).

There are two annexes to this report. Annex 1 contains an unofficial translation of Thailand proposed new regulation. Annex 2 contains a list of ONLY those MLs that differ from established CODEX MLs. Note: The official notification by Thailand to the WTO in its entirety is available at https://docs.wto.org and contains the entire list of proposed MLs.

In the past, Thai FDA governed food additives (Notification of the Ministry of Public Health No. 281 B.E. 2547 re: Food Additives) under three broad categories: those with MLs adopted directly from CODEX; those with MLs established independently by the Thai FDA; and finally those where industry practices were recognized (aka "status quo"). Notification No. 4 proposes to replace the second and third categories with either MLs from General Standard for Food Additives: GSFA 2015 or MLs independently established by Thai FDA.

Notification No. 4 proposes revised MLs for 4 categories of food additives: sweeteners, preservatives, colorings, and other food additives. These proposed MLs are lower than those established by CODEX because the Thai FDA's Food Technical Subcommittee on Food Additives contends that exposure levels in Thailand is higher. This is based on Thailand's evaluation of actual food consumption data and criteria to establish maximum use levels for food additives in various food groups to ensure that the intake of a food additive from all its uses does not exceed its ADI. The new proposed levels are outlined in Annex 2.

Table 1: Food additives whose proposed maximum levels differ from CODEX
Sweeteners (5 substances):

- ACESULFAME POTASSIUM (INS 950)
- ALITAME (INS 956)
- ASPARTAME (INS 951)
- SACCHARIN (INS 954(i)-(iv))
- SUCRALOSE (INS 955)

Preservatives (3 substances):

- BENZOATES (INS 210-213)
- SORBATES (INS 200-203)
- SULFITES (INS 220-225, 227-228, 539)


## Colorings (10 substances):

- Allura red AC (INS 129)
- Indigotine (INS 132)
- Fast green FCF (INS 143)
- Ponceau 4R (INS 124)
- Carmines (INS 120)
- Grape skin extract (INS 163(ii))
- Caramel III - ammonia caramel (INS 150c)
- Caramel IV - sulfite ammonia caramel (INS 150d)
- Iron oxides (INS 172 (i)-(iii))
- Riboflavins (INS 101 (i)-(iii))


## Other Food Additives (4 substances):

- ASCORBYL ESTERS (INS 304-305)
- DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL (INS 472e)
- PROPYLENE GLYCOL ESTERS OF FATTY ACIDS (INS 477)
- SUCROGLYCERIDES (INS 474)

For the combined use of two or more food additives classified in the same functional class and where the maximum levels of each have been individually set, Notification No. 4 proposes that the sum of the proportions of each additive used cannot exceed one " 1 ". Table 2 illustrates an example of where both benzoate (proposed new ML of $1,000 \mathrm{ppm}$ ) and sorbate (proposed new ML of 500 ppm ) might be used together as preservatives in candied fruit while meetings the new ML requirements.

Table 2: Example of how MLs of each food additive are determined for the combined use of two or more food additives classified in the same functional class.

|  | Benzoate | Benzoate <br> Proportion | Sorbate | Sorbate <br> Proportion | Proportion of Preservative <br> Used in Food |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Formula | 1,000 <br> ppm | 1 | 0 ppm | 0 | 1 |
| Formula | 750 ppm | 0.75 | 125 <br> ppm | 0.25 | 1 |
| Formula | 500 ppm | 0.50 | 250 <br> ppm | 0.50 | 1 |
| Formula | 250 ppm | 0.25 | 375 <br> ppm | 0.75 | 1 |
| Formula | 0 ppm | 0 | 500 | 1 | 1 |


| 5 |  |  | ppm |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |

Notification No. 4 also proposes a new process by which an interested party (a domestic food manufacturer, a food importer, etc.) can request Thai FDA establish an ML for a new food additive, or a new food category for an already registered food additive. In general, this process requires that such food additives must pass a safety assessment according to the rules, conditions and procedures as follows:
(1) Food additives have the qualities or standards according to the latest version of the Codex Advisory Specification for the Identity and Purity of Food Additives or the Thai FDA's Notification regarding Prescribed Quality and Standard of Food Additives;
(2) Food additives pass the exposure assessment in accordance with the principle approved by the Food Committee;
(3) Food additives have the technical documents or reliable research publications supporting the necessity of using such additives in food;
(4) Use of food additives comply with the current laws and regulations of at least two countries, which have a reliable risk assessment system, namely the European Union, Australia, New Zealand, the United States of America or Japan.

Note: Unique regulatory requirements for "Specific Controlled Food" and "Prescribed Quality and Standardized Food" under the Thai FDA's food classification supersede those proposed Notification No 4.

A transition period of one year is proposed from the effective date of the implementation of Notification No. 4 until its enforcement.

The final date for comments on the proposed regulation (G/SPS/N/THA/234) is March 8, 2016. Comments should be submitted to the National Bureau of Agricultural Commodity and Food Standards (ACFS), national SPS enquiry point at spsthailand@gmail.com

ANNEX I: Draft Notification of the Ministry of Public Health Re: Food Additive No. 4 and the annex of the notification is available under WTO notification for G/SPS/N/THA/234.
(Draft)
Notification of the Ministry of Public Health
(No..........)B.E............
Re: Food Additive (No. 4)

It deems appropriate to revise some provisions of the Notification of the Ministry of Public Health Re: Food Additives, which includes Cyclamate and Steviol glycoside to be up to date with the food production technology and benefit of consumer protection.

By the virtue of provisions of Section 5 in the first paragraph and Section 6 (1) (2) (4) (5) (6) (7) (9) and (10) of the Food Act B.E. 2522 (1979), the Minister of Public Health hereby issues the notification as follows:

Clause 1. The following Notifications shall be repealed:
(1) The Notification of the Ministry of Public Health No. 359 B.E. 2556 (2013), Re: Cyclamate, dated on 8 July B.E. 2556 (2013);
(2) The Notification of the Ministry of Public Health No. 360 B.E. 2556 (2013), Re: Steviol glycoside, dated on 8 July B.E. 2556 (2013).

Clause 2. Clause 6 of the Notification of the Ministry of Public Health No. 281 B.E. 2547 (2004) on Food Additives, dated on 18 August B.E. 2547 (2004) shall be repealed and replaced by the following provision:
"Clause 6 the use of food additives shall follow the name of food additive, category or type of food, functional classes and maximum permitted use level according to annex I and annex II of this Notification."

For the combined use of two or more food additives classified in the same functional classes, with the maximum level has been individually set, the sum of the quantities obtained by dividing the amount of each food additive used by the maximum permitted level for that food additive must not exceed one.

The use of food additives that differs from the statement stipulated in the first and second paragraph shall be approved by the Food and Drug Administration. Such food additives shall pass the safety assessment according to the rules, conditions and procedures for permission as follows:
(1) Food additives shall have the qualities or standards according to the latest version of the Codex Advisory Specification for the Identity and Purity of Food Additives or the Thai FDA's Notification regarding Prescribed Quality and Standard of Food Additives;
(2) Food additives pass the exposure assessment in accordance with the principle approved by the Food Committee;
(3) Food additives have the technical documents or reliable research publications supporting the necessity of using such additives in food;
(4) Use of food additives comply with the current laws and regulations of at least two countries, which have the reliable risk assessment system, namely the European Union, Australia, New Zealand, the United States of America and Japan.

The use of food additives according to the first, second and third paragraph shall not enforce on "Specific Controlled Food" or "Prescribed Quality and Standardized Food" as the use of food additives in these food categories were already stipulated in their own specific regulations.

Clause 3. Clause 7 of the Notification of the Ministry of Public Health No. 281 B.E. 2547 (2004), Re: Food Additives, dated on 18 August B.E. 2547 (2004) shall be repealed.

Clause 4. The food manufacturer or importer, obtaining a permission prior to the effective date of this Notification, shall comply with this Notification within one year from the effective date.

Clause 5. This Notification shall come into force after the date of its publication in the Royal Gazette.

ANNEX II: The revised maximum levels of each food additives that are different from CODEX

## Sweeteners:

- ACESULFAME POTASSIUM (INS 950)

|  |  | Max Level |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Number | Food Category | CODEX | Revised <br> Thai FDA | Units | Notes |
| 01.1.2 Dairy-based drinks, flavored and/or <br> fermented excluding flavored milk as per <br> MOPH Notification No. 351 Re:  <br> Flavored Milk   | 350 | 350 |  |  |  |
|  | Jams, jellies, marmalades | 1,000 | Not allow | $\mathrm{mg} / \mathrm{kg}$ | 161,188 |
|  | Chewing gum | 5,000 | 2,000 | $\mathrm{mg} / \mathrm{kg}$ | 161,188 |
|  | Water-based flavored drinks, excluding <br> ""electrolyte" drinks as per MOPH <br> Notification No. 195 Electrolyte Drinks. | 600 | 500 | $\mathrm{mg} / \mathrm{kg}$ | 161,188 |

- ALITAME (INS 956)

| Number | Food Category | Max Level |  | Units | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CODEX | Revised Thai FDA |  |  |
| 01.1.2 | Dairy-based drinks, flavored and/or fermented excluding flavored milk as per MOPH Notification No. 351 Re: Flavored Milk | 100 | 40 | mg/kg | 161 |
| 04.1.2.5 | Jams, jellies, marmalades | 100 | Not allow | mg/kg |  |
| 05.1.4 | Cocoa and chocolate products excluding chocolate products as per MOPH Notification No. 83 Re: Chocolates | 300 | 300 | mg/kg | 161 |
| 14.1.4 | Water-based flavored drinks, excluding "electrolyte" drinks as per MOPH Notification No. 195 Electrolyte Drinks. | 40 | 40 | mg/kg | 161 |

- ASPARTAME (INS 951)

|  |  | Max Level |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Number | Food Category | CODEX | Revised <br> Thai FDA | Units | Notes |
|  | Dairy-based drinks, flavored and/or <br> fermented excluding flavored milk as per <br> MOPH Notification No. 351 Re: <br> Flavored Milk | 600 | 350 | $\mathrm{mg} / \mathrm{kg}$ | 161,191 |
| 01.1 .2 | Fams, jellies, marmalades | 1,000 | Not allow |  |  |
| 04.1 .2 .5 | Jand | 3,000 | 2,000 | $\mathrm{mg} / \mathrm{kg}$ | 97,191 |
| 05.1 .1 | Cocoa mixes (powders) and cocoa <br> mass/cake |  |  |  |  |


|  | Cocoa and chocolate products excluding <br> chocolate products as per MOPH <br> Notification No. 83 Re: Chocolates | 3,000 | 3,000 | $\mathrm{mg} / \mathrm{kg}$ | 161,191 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 05.1 .4 | Chewing gum | 10,000 | 2,500 | $\mathrm{mg} / \mathrm{kg}$ | 161,191 |
| 05.3 | Water-based flavored drinks, excluding <br> ""electrolyte" drinks as per MOPH <br> Notification No. 195 Electrolyte Drinks. | 600 | 500 | $\mathrm{mg} / \mathrm{kg}$ | 161,191 |

- SACCHARIN (INS 954(i)-(iv))

| Number | Food Category | Max Level |  | Units | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CODEX | Revised <br> Thai FDA |  |  |
| 01.1.2 | Dairy-based drinks, flavored and/or fermented excluding flavored milk as per MOPH Notification No. 351 Re: Flavored Milk | 80 | 80 | $\mathrm{mg} / \mathrm{kg}$ | 161 |
| 04.1.2.5 | Jams, jellies, marmalades | 200 | Not allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 05.1.4 | Cocoa and chocolate products excluding chocolate products as per MOPH Notification No. 83 Re: Chocolates | 500 | 500 | $\mathrm{mg} / \mathrm{kg}$ | 161 |
| 05.3 | Chewing gum | 2,500 | 1,200 | $\mathrm{mg} / \mathrm{kg}$ | 161 |
| 14.1.4.1 | Carbonated water-based flavored drinks, excluding ""electrolyte" drinks as per MOPH Notification No. 195 Electrolyte Drinks. | 300 | 200 | $\mathrm{mg} / \mathrm{kg}$ | 161 |
| 14.1.4.2 | Non-carbonated water-based flavored drinks, excluding ""electrolyte" drinks as per MOPH Notification No. 195 Electrolyte Drinks. | 300 | 200 | $\mathrm{mg} / \mathrm{kg}$ | 161 |
| 14.1.4.3 | Concentrates (liquid or solid), excluding "electrolyte" drinks as per MOPH Notification No. 195 Electrolyte Drinks. | 300 | 200 | mg/kg | 127,161 |

- SUCRALOSE (INS 955)

| Number | Food Category | Max Level |  | Units | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CODEX | Revised <br> Thai FDA |  |  |
| 01.1.2 | Dairy-based drinks, flavored and/or fermented excluding flavored milk as per MOPH Notification No. 351 Re: Flavored Milk | 300 | 300 | mg/kg | 161 |


| 04.1 .2 .5 | Jams, jellies, marmalades | 400 | Not allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 05.1.1 | Cocoa mixes (powders) and cocoa <br> mass/cake | 580 | 500 | $\mathrm{mg} / \mathrm{kg}$ | 97 |
|  | Cocoa and chocolate products excluding <br> chocolate products as per MOPH <br> Notification No. 83 Re: Chocolates | 800 | 800 | $\mathrm{mg} / \mathrm{kg}$ | 161 |
| 05.1 .4 | Chewing gum | 5,000 | 2,500 | $\mathrm{mg} / \mathrm{kg}$ | 161 |
| 05.3 | Water-based flavored drinks, excluding <br> ""electrolyte" drinks as per MOPH <br> Notification No. 195 Electrolyte Drinks. | 300 | 300 | $\mathrm{mg} / \mathrm{kg}$ | 127,161 |

## Preservatives:

- BENZOATES (INS 210-213)

| Number | Food Category | Max Level |  | Units | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CODEX | Revised Thai FDA |  |  |
| 1.7 | Dairy-based desserts excluding milk ice cream as per MOPH Notification No. 354 Re: Ice Cream and flavored yogurts as per MOPH Notification No. 353 Re: Fermented Milk | 300 | 300 | mg/kg | 13 |
| 2.4 | Fat-based desserts excluding modified ice cream made from vegetable fat | 1,000 | 1,000 | mg/kg | 13 |
| 04.1.2.2 | Dried fruit | 800 | Not allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.1.2.12 | Cooked fruit | 1,000 | 500 | mg/kg | 13 |
| 04.2.2.2 | Dried vegetables, seaweeds, and nuts and seeds | 1,000 | Not allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.2.2.8 | Cooked or fried vegetables and seaweeds | 1,000 | 500 | $\mathrm{mg} / \mathrm{kg}$ | 13 |
| 05.2 | Confectionery including hard and soft candy, nougats, etc. | 1,500 | 1,000 | $\mathrm{mg} / \mathrm{kg}$ | 13 |
| 07.0 | Bakery wares | 1,000 | Not allow |  |  |
| 09.2.4.2 | Cooked mollusks, crustaceans, and echinoderms | 2,000 | 1,000 | $\mathrm{mg} / \mathrm{kg}$ | 13,182 |
| 09.2.5 | Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms | 200 | Not allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 10.2.1 | Liquid egg products | 5,000 | 2,500 | $\mathrm{mg} / \mathrm{kg}$ | 13 |


| 10.4 | Egg-based desserts | 1,000 | 500 | $\mathrm{mg} / \mathrm{kg}$ | 13 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 12.2 .2 | Seasonings and condiments | 1,000 | 500 | $\mathrm{mg} / \mathrm{kg}$ | 13 |
| 12.3 | Vinegars | 1,000 | Not <br> allow | $\mathrm{mg} / \mathrm{kg}$ |  |
|  | Soups and excluding canned soup as <br> per MOPH Notification No. 355 <br> Food in a Hermetically Sealed <br> Container | 500 | 500 |  |  |
| 12.5 | Dietetic foods | 2,000 | 1,000 | $\mathrm{mg} / \mathrm{kg}$ | 13 |
| 13.5 | Fruit juice | 1,000 | 200 | $\mathrm{mg} / \mathrm{kg}$ | $13,91,122$ |
| 14.1 .2 .1 | 1,000 | 200 | $\mathrm{mg} / \mathrm{kg}$ | $13,91,122,127$ |  |
| 14.1 .2 .3 | Concentrates for fruit juice | 1,000 | 200 | $\mathrm{mg} / \mathrm{kg}$ | $13,91,122$ |
| 14.1 .3 .1 | Fruit nectar | 1,000 | 200 | $\mathrm{mg} / \mathrm{kg}$ | $13,91,122,127$ |
| 14.1 .3 .3 | Concentrates for fruit nectar | 600 | 200 | $\mathrm{mg} / \mathrm{kg}$ | 13 |
| 14.1 .3 .4 | Concentrates for vegetable nectar | $\mathrm{mg} / \mathrm{kg}$ |  |  |  |
|  | Water-based flavored drinks, <br> including "sport," "energy," or | electrolyte" drinks and particulated <br> drinks | 600 | 200 | $\mathrm{mg} / \mathrm{kg}$ |
| 14.1 .4 | Coffee, coffee substitutes, tea, <br> herbal infusions, and other hot <br> cereal and grain beverages, <br> excluding cocoa | 1,000 | 200 | $13,123,301$ |  |
| 14.1 .5 | Snacks - potato, cereal, flour or <br> starch based | 1,000 | Not <br> allow | $\mathrm{mg} / \mathrm{kg}$ | 13 |
| 15.1 |  |  |  |  |  |

- SORBATES (INS 200-203)

| Number | Food Category | Max Level |  | Units | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CODEX | Revised Thai FDA |  |  |
| 01.1.2 | Dairy-based drinks, flavored and/or fermented excluding flavored milk as per MOPH Notification No. 351 Re: Flavored Milk | 1,000 | 1,000 | $\mathrm{mg} / \mathrm{kg}$ | 42,220 |
| 01.7 | Dairy-based desserts excluding milk ice cream as per MOPH Notification No. 354 Re: Ice Cream and flavored yogurts as per MOPH Notification No. 353 Re: Fermented Milk | 1,000 | 1,000 | $\mathrm{mg} / \mathrm{kg}$ | 42 |
| 02.4 | Fat-based desserts excluding modified ice cream made from vegetable fat | 1,000 | 1,000 | $\mathrm{mg} / \mathrm{kg}$ | 42 |
| 12.5 | Soups and excluding canned soup as | 1,000 |  | $\mathrm{mg} / \mathrm{kg}$ | 42,338,339 |


|  | per MOPH Notification No. 355 <br> Food in a Hermetically Sealed <br> Container |  | 1,000 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 14.1 .2 .1 | Fruit juice | 1,000 | 200 | $\mathrm{mg} / \mathrm{kg}$ | $42,91,122$ |
| 14.1 .2 .3 | Concentrates for fruit juice | 1,000 | 200 | $\mathrm{mg} / \mathrm{kg}$ | $42,91,122,127$ |
| 14.1 .3 .1 | Fruit nectar | 1,000 | 200 | $\mathrm{mg} / \mathrm{kg}$ | $42,91,122$ |
| 14.1 .3 .3 | Concentrates for fruit nectar | 1,000 | 200 | $\mathrm{mg} / \mathrm{kg}$ | $42,91,122,127$ |
| 14.1 .4 | Water-based flavored drinks | 500 | 200 | $\mathrm{mg} / \mathrm{kg}$ | 42,127 |
|  | Coffee, coffee substitutes, tea, herbal <br> infusions, and other hot cereal and <br> grain beverages, excluding cocoa | 500 | 200 | $\mathrm{mg} / \mathrm{kg}$ | 42,160 |
| 14.1 .5 |  |  |  |  |  |

- SULFITES (INS 220-225, 227-228, 539)

| Number | Food Category | Max Level |  | Units | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CODEX | Revised Thai FDA |  |  |
| 04.1.2.2 | Dried fruit | 1,000 | 500 | mg/kg | 44,135,218 |
| 04.2.2.7 | Fermented vegetable and seaweed products | 500 | 100 | $\mathrm{mg} / \mathrm{kg}$ | 44 |
| 12.6 | Sauces and like products | 300 | 150 | mg/kg | 44 |

## Colorings:

- Allura red AC (INS 129)- Same as CODEX
- Indigotine (INS 132) - Same as CODEX
- Fast green FCF (INS 143) - Same as CODEX
- Ponceau 4R (INS 124)- Same as CODEX
- Carmines (INS 120) - Same as CODEX
- Grape skin extract (INS 163(ii))

|  |  | Max Level |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Number | Food Category | CODEX | Revised <br> Thai <br> FDA | Units | Notes |
|  | Dairy-based drinks, flavored and/or <br> fermented (e.g., chocolate milk, cocoa, <br> eggnog, drinking yoghurt, whey-based | 150 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.1 .2 | drinks) | 150 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.4 .4 | Cream analogues | 150 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.5 .2 | Milk and cream powder analogues | 1,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.6 .2 .2 | Rind of ripened cheese |  |  |  |  |


| 01.6.4.2 | Flavored processed cheese | 1,000 | Not Allow | mg/kg |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 01.6.5 | Cheese analogues | 1,000 | Not Allow | mg/kg |  |
| 04.1.2.3 | Fruit in vinegar, oil, or brine | 1,500 | Not Allow | mg/kg |  |
| 04.1.2.4 | Canned or bottled (pasteurized) fruit | 1,500 | Not Allow | mg/kg |  |
| 04.1.2.7 | Candied fruit | 1,000 | Not Allow | mg/kg |  |
| 04.1.2.8 | Fruit preparations | 500 | Not Allow | mg/kg |  |
| 04.1.2.10 | Fermented fruit products | 500 | Not Allow | mg/kg |  |
| 04.2.2.3 | Vegetables and seaweeds in vinegar, oil, brine, or soybean sauce | 100 | Not Allow | mg/kg |  |
| 04.2.2.5 | Vegetable, seaweed, and nut and seed purees and spreads | 100 | Not Allow | mg/kg |  |
| 04.2.2.6 | Vegetable, seaweed, and nut and seed pulps and preparations | 100 | Not Allow | mg/kg |  |
| 04.2.2.7 | Fermented vegetable and seaweed products | 100 | Not Allow | mg/kg |  |
| 05.1.3 | Cocoa-based spreads, including fillings | 200 | Not Allow | mg/kg |  |
| 05.1.4 | Cocoa and chocolate products | 200 | Not Allow | mg/kg |  |
| 05.1.5 | Imitation chocolate, chocolate substitute products | 200 | Not Allow | mg/kg |  |
| 6.3 | Breakfast cereals | 200 | Not Allow | mg/kg |  |
| 07.1.2 | Crackers, excluding sweet crackers | 200 | Not Allow | mg/kg |  |
| 07.1.4 | Bread-type products | 200 | Not Allow | mg/kg |  |
| 8.2 | Processed meat, poultry, and game products in whole pieces or cuts | 5,000 | Not Allow | mg/kg |  |
| 8.3 | Processed comminuted meat, poultry, and game products | 5,000 | Not Allow | mg/kg |  |
| 8.4 | Edible casings (e.g., sausage casings) | 5,000 | Not Allow | mg/kg |  |
| 09.2.3 | Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms | GMP | 500 | mg/kg | 16,95 |
| 09.2.4.1 | Cooked fish and fish products | 500 | Not Allow | mg/kg |  |


| 09.2.4.2 | Cooked mollusks, crustaceans, and echinoderms | 1,000 | Not Allow | mg/kg |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 09.2.5 | Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms | 1,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 09.3.3 | Caviar and other fish roe products | 1,500 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 09.3.4 | Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1-09.3.3 | 1,500 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 9.4 | Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms | 1,500 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.4 | Mustards | 200 | Not Allow | mg/kg |  |
| 12.5 | Soups | 500 | Not Allow | mg/kg |  |
| 12.6.1 | Emulsified sauces | 300 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.6.2 | Non-emulsified sauces | 300 | Not Allow | mg/kg |  |
| 12.6.3 | Mixes for sauces and gravies | 300 | Not Allow | mg/kg |  |
| 12.7 | Salads and sandwich spreads | 1,500 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 13.3 | Dietetic foods intended for special medical purposes | 250 | Not Allow | mg/kg |  |
| 13.4 | Dietetic formulae for slimming purposes and weight reduction | 250 | Not Allow | mg/kg |  |
| 13.5 | Dietetic foods | 250 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.1.4 | Water-based flavored drinks | 300 | 160 | $\mathrm{mg} / \mathrm{kg}$ | 181 |

- Caramel III - ammonia caramel (INS 150c)

|  |  | Max Level |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Number | Food Category | CODEX | Revised <br> Thai FDA | Units | Notes |


| 01.1.2 | Dairy-based drinks, flavored and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks) | 2,000 | 500 | mg/kg | 52 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 01.3.2 | Beverage whiteners | 1,000 | 500 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.4.4 | Cream analogues | 5,000 | 2,500 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.5.2 | Milk and cream powder analogues | 5,000 | 2,500 | mg/kg |  |
| 01.6.1 | Unripened cheese | 15,000 | 7,500 | mg/kg | 201 |
| 01.6.2.2 | Rind of ripened cheese | 50,000 | 25,000 | mg/kg |  |
| 01.6.4.2 | Flavored processed cheese | 50,000 | 25,000 | mg/kg |  |
| 01.6.5 | Cheese analogues | 50,000 | 25,000 | mg/kg |  |
| 1.7 | Dairy-based desserts | 2,000 | 1,000 | mg/kg |  |
| 02.2.2 | Fat spreads, dairy fat spreads and blended spreads | 500 | 250 | mg/kg |  |
| 2.3 | Fat emulsions mainly of type oil-in-water | 20,000 | 10,000 | mg/kg |  |
| 2.4 | Fat-based desserts | 20,000 | 10,000 | mg/kg |  |
| 04.1.2.3 | Fruit in vinegar, oil, or brine | 200 | 100 | mg/kg |  |
| 04.1.2.4 | Canned or bottled (pasteurized) fruit | 200 | 100 | mg/kg |  |
| 04.1.2.5 | Jams, jellies, marmalades | 200 | 100 | mg/kg |  |
| 04.1.2.6 | Fruit-based spreads | 500 | 250 | mg/kg |  |
| 04.1.2.7 | Candied fruit | 200 | 100 | mg/kg |  |
| 04.1.2.8 | Fruit preparations | 7,500 | 3,750 | mg/kg | 182 |
| 04.1.2.9 | Fruit-based desserts | 200 | 100 | mg/kg |  |
| 04.1.2.11 | Fruit fillings for pastries | 7,500 | 3,750 | mg/kg |  |
| 04.2.2.2 | Dried vegetables, seaweeds, and nuts and seeds | 50,000 | 25,000 | mg/kg | 76,161 |
| 04.2.2.3 | Vegetables and seaweeds in vinegar, oil, brine, or soybean sauce | 500 | 250 | mg/kg |  |
| 04.2.2.4 | Canned or bottled (pasteurized) or retort pouch vegetables and seaweeds | 50,000 | 25,000 | mg/kg | 161 |
| 04.2.2.5 | Vegetable, seaweed, and nut and seed purees and spreads | 50,000 | 25,000 | mg/kg |  |


| 04.2.2.6 | Vegetable, seaweed, and nut and seed pulps and preparations | 50,000 | 25,000 | mg/kg | 161 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 04.2.2.7 | Fermented vegetable and seaweed products | 50,000 | 25,000 | mg/kg | 161 |
| 04.2.2.8 | Cooked or fried vegetables and seaweeds | 50,000 | 25,000 | mg/kg | 161 |
| 05.1.2 | Cocoa mixes (syrups) | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 05.1.3 | Cocoa-based spreads, including fillings | 50,000 | 25,000 | mg/kg |  |
| 05.1.4 | Cocoa and chocolate products | 50,000 | 25,000 | mg/kg | 183 |
| 05.1.5 | Imitation chocolate, chocolate substitute products | 50,000 | 25,000 | mg/kg |  |
| 5.3 | Chewing gum | 20,000 | 10,000 | mg/kg |  |
| 5.4 | Decorations, toppings (non-fruit) and sweet sauces | 50,000 | 25,000 | mg/kg |  |
| 6.3 | Breakfast cereals | 50,000 | 25,000 | mg/kg | 189 |
| 06.4.3 | Pre-cooked pastas and noodles and like products | 50,000 | Not Allow | mg/kg |  |
| 6.5 | Cereal and starch based desserts | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 6.6 | Batters | 50,000 | 25,000 | mg/kg |  |
| 6.7 | Pre-cooked or processed rice products | 50,000 | 25,000 | mg/kg |  |
| 06.8.1 | Soybean-based beverages | 1,500 | 750 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 06.8.8 | Other soybean protein products | 20,000 | 10,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 07.1.2 | Crackers, excluding sweet crackers | 50,000 | 25,000 | mg/kg | 161 |
| 07.1.3 | Other ordinary bakery products | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ | 161 |
| 07.1.4 | Bread-type products | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ | 161 |
| 07.1.5 | Steamed breads and buns | 50,000 | 25,000 | mg/kg | 161 |
| 07.1.6 | Mixes for bread and ordinary bakery wares | 50,000 | 25,000 | mg/kg | 161 |
| 7.2 | Fine bakery wares (sweet, salty, savory) and mixes | 50,000 | 25,000 | mg/kg | 161 |
| 9.1 | Fresh fish and fish products, including mollusks, crustaceans, and echinoderms | 30,000 | 15,000 | $\mathrm{mg} / \mathrm{kg}$ | 4,16 |
| 9.2 | Processed fish and fish products, including mollusks, crustaceans, and echinoderms | 30,000 | 15,000 | $\mathrm{mg} / \mathrm{kg}$ |  |


| 9.3 | Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms | 30,000 | 15,000 | mg/kg | 95 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 9.4 | Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms | 500 | 250 | mg/kg | 50 |
| 10.1 | Fresh eggs | 20,000 | 10,000 | mg/kg | 4 |
| 10.3 | Preserved eggs, including alkaline, salted, and canned eggs | 20,000 | 10,000 | $\mathrm{mg} / \mathrm{kg}$ | 4 |
| 10.4 | Egg-based desserts (e.g., custard) | 20,000 | 10,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 11.4 | Other sugars and syrups for decoration or toppings | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ | 100 |
| 12.2.2 | Seasonings and condiments | 50,000 | 30,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.3 | Vinegars | 1,000 | 500 | $\mathrm{mg} / \mathrm{kg}$ | 78 |
| 12.4 | Mustards | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.5 | Soups | 20,000 | 12,500 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.6 | Sauces and like products | 50,000 | 15,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.7 | Salads and sandwich spreads | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ | 89 |
| 12.9.2.1 | Fermented soybean sauce | 20,000 | 10,000 | $\mathrm{mg} / \mathrm{kg}$ | 207 |
| 12.9.2.2 | Non-fermented soybean sauce | 1,500 | 750 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.9.2.3 | Other soybean sauces | 20,000 | 15,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 13.3 | Dietetic foods intended for special medical purposes | 20,000 | 10,000 | mg/kg |  |
| 13.4 | Dietetic formulae for slimming purposes and weight reduction | 20,000 | 10,000 | mg/kg |  |
| 13.5 | Dietetic foods | 20,000 | 10,000 | mg/kg |  |
| 14.1.5 | Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa | 10,000 | 5,000 | $\mathrm{mg} / \mathrm{kg}$ | 160,7 |
| 14.2.1 | Beer and malt beverages | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.2.2 | Cider and perry | 1,000 | 500 | mg/kg |  |
| 14.2.3.3 | Fortified grape wine, grape liquor wine, and sweet grape wine | 50,000 | 25,000 | mg/kg |  |
| 14.2.4 | Wines (other than grape) | 1,000 | 500 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.2.5 | Mead | 1,000 | 500 | mg/kg |  |
| 14.2.6 | Distilled spirituous beverages containing more than $15 \%$ alcohol | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.2.7 | Aromatized alcoholic beverages | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 15.0 | Snack | 10,000 | 5,000 | $\mathrm{mg} / \mathrm{kg}$ |  |

- Caramel IV - sulfite ammonia caramel (INS 150d)

| Number | Food Category | Max Level |  | Units | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CODEX | Revised <br> Thai FDA |  |  |
| 01.1.2 | Dairy-based drinks, flavored and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks) | 2,000 | 500 | mg/kg | 52 |
| 01.2.1 | Fermented milks (plain) | 150 | 75 | $\mathrm{mg} / \mathrm{kg}$ | 12 |
| 01.3.2 | Beverage whiteners | 1,000 | 500 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.4.4 | Cream analogues | 5,000 | 2,500 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.5.2 | Milk and cream powder analogues | 5,000 | 2,500 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.6.1 | Unripened cheese | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ | 201 |
| 01.6.2.1 | Ripened cheese, includes rind | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ | 201 |
| 01.6.2.2 | Rind of ripened cheese | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.6.4.2 | Flavored processed cheese | 50,000 | 25,000 | mg/kg | 72 |
| 01.6.5 | Cheese analogues | 50,000 | 25,000 | mg/kg | 201 |
| 02.2.2 | Fat spreads, dairy fat spreads and blended spreads | 500 | 250 | $\mathrm{mg} / \mathrm{kg}$ | 214 |
| 2.4 | Fat-based desserts | 20,000 | 10,000 | mg/kg |  |
| 04.1.2.3 | Fruit in vinegar, oil, or brine | 7,500 | 3,750 | mg/kg |  |
| 04.1.2.4 | Canned or bottled (pasteurized) fruit | 7,500 | 3,750 | mg/kg |  |
| 04.1.2.5 | Jams, jellies, marmalades | 1,500 | 750 | mg/kg |  |
| 04.1.2.6 | Fruit-based spreads | 500 | 250 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.1.2.7 | Candied fruit | 7,500 | 3,750 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.1.2.8 | Fruit preparations | 7,500 | 3,750 | mg/kg | 182 |
| 04.1.2.9 | Fruit-based desserts | 7,500 | 3,750 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.1.2.11 | Fruit fillings for pastries | 7,500 | 3,750 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.2.2 | Processed vegetables, seaweeds, and nuts and seeds | 50,000 | 25,000 | mg/kg | 92,161 |
| 05.1.2 | Cocoa mixes (syrups) | 50,000 | 25,000 | mg/kg |  |
| 05.1.3 | Cocoa-based spreads, including fillings | 50,000 | 25,000 | mg/kg |  |

$\left.\begin{array}{|l|l|l|l|l|l|}\hline 05.1 .4 & \text { Cocoa and chocolate products } & 50,000 & 25,000 & \mathrm{mg} / \mathrm{kg} & 183 \\ \hline 05.1 .5 & \text { Imitation chocolate, chocolate substitute } & \text { products } & 50,000 & 25,000 & \mathrm{mg} / \mathrm{kg}\end{array}\right]$

| 12.5 | Soups | 25,000 | 12,500 | $\mathrm{mg} / \mathrm{kg}$ | 212 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 12.6 | Sauces and like products | 30,000 | 15,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.7 | Salads and sandwich spreads | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.9 .2 .1 | Fermented soybean sauce | 60,000 | 15,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 13.3 | Dietetic foods intended for special <br> medical purposes | 20,000 | 10,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 13.4 | Dietetic formulae for slimming purposes <br> and weight reduction | 20,000 | 10,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 13.5 | Dietetic foods | 20,000 | 10,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 13.6 | Food supplements | 20,000 | 10,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.1 .4 | Water-based flavored drinks | 50,000 | 5,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
|  | Coffee, coffee substitutes, tea, herbal <br> infusions, and other hot cereal and grain <br> beverages, excluding cocoa | 10,000 | 5,000 | $\mathrm{mg} / \mathrm{kg}$ | 7,127 |
| 14.1 .5 | Beer and malt beverages | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.2 .1 | Cider and perry | 1,000 | 500 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.2 .2 | Fortified grape wine, grape liquor wine, <br> and sweet grape wine | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.2 .3 .3 | Wines (other than grape) | 1,000 | 500 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.2 .4 | 1,000 | 500 | $\mathrm{mg} / \mathrm{kg}$ |  |  |
| 14.2 .5 | Mead | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.2 .6 | Distilled spirituous beverages containing <br> more than $15 \%$ alcohol | 50,000 | 25,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.2 .7 | Aromatized alcoholic beverages | 10,000 | 5,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 15.0 | Snack |  |  |  |  |

- Iron oxides (INS 172 (i)-(iii))

|  |  | Max Level |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Number | Food Category |  | CODEX | Revised <br> Thai <br> FDA | Units | Notes | Nand/or |
| :--- |


|  |  |  |  | mg/kg |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3.0 | Edible ices, including sherbet and sorbet | 300 | Not Allow | mg/kg |  |
| 04.1.1.2 | Surface-treated fresh fruit | 1,000 | Not Allow | mg/kg |  |
| 04.1.2.4 | Canned or bottled (pasteurized) fruit | 300 | Not Allow | mg/kg |  |
| 04.1.2.5 | Jams, jellies, marmalades | 200 | Not Allow | mg/kg |  |
| 04.1.2.6 | Fruit-based spreads | 500 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.1.2.7 | Candied fruit | 250 | Not Allow | mg/kg |  |
| 04.1.2.9 | Fruit-based desserts | 200 | Not Allow | mg/kg |  |
| 5.2 | Confectionery including hard and soft candy, nougats, etc. | 200 | Not Allow | mg/kg |  |
| 5.3 | Chewing gum | 10,000 | Not Allow | mg/kg |  |
| 6.3 | Breakfast cereals | 75 | Not Allow | mg/kg |  |
| 6.5 | Cereal and starch based desserts | 75 | Not Allow | mg/kg |  |
| 7.2 | Fine bakery wares (sweet, salty, savory) and mixes | 100 | Not Allow | mg/kg |  |
| 8.4 | Edible casings (e.g., sausage casings) | 1,000 | Not Allow | mg/kg |  |
| 09.2.5 | Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms | 250 | Not Allow | mg/kg |  |
| 09.3.3 | Caviar, and other fish roe products | 100 | Not Allow | mg/kg |  |
| 09.3.4 | Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1-09.3.3 | 50 | Not Allow | mg/kg |  |
| 9.4 | Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms | 50 | Not Allow | mg/kg |  |
| 10.1 | Fresh eggs | GMP | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 10.4 | Egg-based desserts (e.g., custard) | 150 | Not Allow | mg/kg |  |
| 12.2.2 | Seasonings and condiments | 1,000 | Not Allow | mg/kg |  |
| 12.5 | Soups | 100 | Not Allow | mg/kg |  |
| 12.6 | Sauces and like products | 75 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 13.6 | Food supplements | 7,500 | 1,000 | mg/kg | 3 |


| 14.1 .4 | Water-based flavored drinks | 100 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 15.1 | Snacks - potato, cereal, flour or starch based | 500 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 15.2 | Processed nuts, including coated nuts and <br> nut mixtures | 400 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |

- Riboflavins (INS 101 (i)-(iii))

| Number | Food Category | Max Level |  | Units | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CODEX | Revised Thai FDA |  |  |
| 01.1.2 | Dairy-based drinks, flavored and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks) | 300 | Not Allow | mg/kg |  |
| 01.3.2 | Beverage whiteners | 300 | Not Allow | mg/kg |  |
| 01.5.2 | Milk and cream powder analogues | 300 | Not Allow | mg/kg |  |
| 01.6.1 | Unripened cheese | 300 | 100 | mg/kg |  |
| 01.6.2.1 | Ripened cheese, includes rind | 300 | 100 | mg/kg |  |
| 01.6.2.2 | Rind of ripened cheese | 300 | 100 | mg/kg |  |
| 01.6.4 | Processed cheese | 300 | 100 | mg/kg |  |
| 01.6 .5 | Cheese analogues | 300 | 100 | mg/kg |  |
| 1.7 | Dairy-based desserts | 300 | Not Allow | mg/kg |  |
| 02.2.2 | Fat spreads, dairy fat spreads and blended spreads | 300 | Not Allow | mg/kg |  |
| 2.3 | Fat emulsions mainly of type oil-in-water | 300 | Not Allow | mg/kg |  |
| 2.4 | Fat-based desserts | 300 | Not Allow | mg/kg |  |
| 3.0 | Edible ices, including sherbet and sorbet | 500 | Not Allow | mg/kg |  |
| 04.1.1.2 | Surface-treated fresh fruit | 300 | Not Allow | mg/kg |  |
| 04.1.2.4 | Canned or bottled (pasteurized) fruit | 300 | 70 | mg/kg |  |
| 04.1.2.5 | Jams, jellies, marmalades | 200 | 70 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.1.2.6 | Fruit-based spreads | 500 | 70 | mg/kg |  |
| 04.1.2.7 | Candied fruit | 300 | 70 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.1.2.8 | Fruit preparations | 300 | 70 | mg/kg | 182 |
| 04.1.2.9 | Fruit-based desserts | 300 | 70 | mg/kg |  |
| 04.1.2.10 | Fermented fruit products | 500 | 70 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.1.2.11 | Fruit fillings for pastries | 300 | 70 | mg/kg |  |


| 04.2.1.2 | Surface-treated fresh vegetables, seaweeds, and nuts and seeds | 300 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 04.2.2.3 | Vegetables and seaweeds in vinegar, oil, brine, or soybean sauce | 500 | Not Allow | mg/kg |  |
| 04.2.2.6 | Vegetable, seaweed, and nut and seed pulps and preparations | 300 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.2.2.7 | Fermented vegetable and seaweed products | 500 | Not Allow | mg/kg |  |
| 05.1.5 | Imitation chocolate, chocolate substitute products | 1,000 | 100 | mg/kg |  |
| 5.2 | Confectionery including hard and soft candy, nougats, etc. | 1,000 | 100 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 5.3 | Chewing gum | 1,000 | 100 | mg/kg |  |
| 5.4 | Decorations, toppings (non-fruit) and sweet sauces | 1,000 | 100 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 6.3 | Breakfast cereals | 300 | 70 | mg/kg |  |
| 06.4.3 | Pre-cooked pastas and noodles and like products | 300 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 6.5 | Cereal and starch based desserts | 300 | 70 | mg/kg |  |
| 6.6 | Batters | 300 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 06.8.1 | Soybean-based beverages | 50 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 7.2 | Fine bakery wares (sweet, salty, savory) and mixes | 300 | 70 | mg/kg |  |
| 8.2 | Processed meat, poultry, and game products in whole pieces or cuts | 1,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 8.3 | Processed comminuted meat, poultry, and game products | 1,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 8.4 | Edible casings (e.g., sausage casings) | 1,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 09.2.1 | Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms | 1,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 09.2.2 | Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms | 300 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 09.2.3 | Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms | 300 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 09.2.4.1 | Cooked fish and fish products | 300 | 70 | mg/kg | 95 |
| 09.2.4.2 | Cooked mollusks, crustaceans, and echinoderms | 300 | 70 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 09.2.4.3 | Fried fish and fish products, including mollusks, crustaceans, and echinoderms | 300 | Not Allow |  |  |


|  |  |  |  | mg/kg |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 09.2.5 | Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms | 300 | Not Allow | mg/kg |  |
| 09.3.1 | Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly | 300 | Not Allow | mg/kg |  |
| 09.3.2 | Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine | 300 | Not Allow | mg/kg |  |
| 09.3.3 | Caviar, and other fish roe products | 300 | 100 | mg/kg |  |
| 09.3.4 | Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1-09.3.3 | 300 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 9.4 | Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms | 500 | Not Allow | mg/kg |  |
| 10.4 | Egg-based desserts (e.g., custard) | 300 | 70 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 11.3 | Preserved egg products | 300 | Not Allow | mg/kg |  |
| 11.4 | Other sugars and syrups for decoration and toppings | 300 | 70 | mg/kg |  |
| 12.2.2 | Seasonings and condiments | 350 | 70 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.4 | Mustards | 300 | 70 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.5 | Soups | 200 | 70 | $\mathrm{mg} / \mathrm{kg}$ | 344 |
| 12.6 | Sauces and like products | 350 | 70 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.7 | Salads and sandwich spreads | 300 | 70 | mg/kg |  |
| 13.3 | Dietetic foods intended for special medical purposes | 300 | 100 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 13.4 | Dietetic formulae for slimming purposes and weight reduction | 300 | 100 | mg/kg |  |
| 13.5 | Dietetic foods | 300 | 70 | mg/kg |  |
| 14.1.4 | Water-based flavored drinks | 50 | 30 | mg/kg |  |
| 15.1 | Snacks - potato, cereal, flour or starch based | 1,000 | 70 | mg/kg |  |


| 15.2 | Processed nuts, including coated nuts and <br> nut mixtures | 1,000 | 70 | $\mathrm{mg} / \mathrm{kg}$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- |

## Other Food Additives:

- ASCORBYL ESTERS (INS 304-305)

Same as CODEX with additional note on number 15

- DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL (INS 472e)

| Number | Food Category | Max Level |  | Units | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CODEX | Revised Thai FDA |  |  |
| 01.1.2 | Dairy-based drinks, flavored and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks) | 5,000 | Not Allow | mg/kg |  |
| 01.5.1 | Milk powder and cream powder (plain) | 10,000 | Not Allow | mg/kg |  |
| 1.7 | Dairy-based desserts | 10,000 | Not Allow | mg/kg |  |
| 02.1.2 | Vegetable oils and fats | 10,000 | Not Allow | mg/kg |  |
| 02.1.3 | Lard, tallow, fish oil, and other animal fats | 10,000 | Not Allow | mg/kg |  |
| 02.2.2 | Fat spreads, dairy fat spreads and blended spreads | 10,000 | Not Allow | mg/kg |  |
| 2.4 | Fat-based desserts | 5,000 | Not Allow | mg/kg |  |
| 3.0 | Edible ices, including sherbet and sorbet | 1,000 | Not Allow | mg/kg |  |
| 04.1.2.2 | Dried fruit | 10,000 | Not Allow | mg/kg |  |
| 04.1.2.7 | Candied fruit | 1,000 | Not Allow | mg/kg |  |
| 04.1.2.8 | Fruit preparations | 2,500 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 04.1.2.9 | Fruit-based desserts | 2,500 | Not Allow | mg/kg |  |
| 04.2.2.2 | Dried vegetables, seaweeds, and nuts and seeds | 10,000 | Not Allow | mg/kg |  |
| 04.2.2.7 | Fermented vegetable and seaweed products | 2,500 | Not Allow | mg/kg |  |
| 04.2.2.8 | Cooked or fried vegetables and seaweeds | 2,500 | Not Allow | mg/kg |  |
| 6.2 | Flours and starches | 3,000 | Not Allow | mg/kg |  |


| 06.4 .2 | Dried pastas and noodles and like products | 5,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 06.4 .3 | Pre-cooked pastas and noodles and like <br> products | 10,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 6.5 | Cereal and starch based desserts | 5,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 10.4 | Egg-based desserts (e.g., custard) | 5,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.5 | Soups | 5,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 12.7 | Salads and sandwich spreads | 5,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.1 .4 | Water-based flavored drinks | 5,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
|  | Coffee, coffee substitutes, tea, herbal <br> infusions, and other hot cereal and grain <br> beverages, excluding cocoa | 500 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.1 .5 | Snacks - potato, cereal, flour or starch <br> based | 20,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 15.1 | Processed nuts, including coated nuts and <br> nut mixtures | 10,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 1 |  |  |  |  |  |

- PROPYLENE GLYCOL ESTERS OF FATTY ACIDS (INS 477)

| Number | Food Category | Max Level |  | Units | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | CODEX | Revised Thai FDA |  |  |
| 01.1.2 | Dairy-based drinks, flavored and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks) | 5,000 | Not Allow | mg/kg |  |
| 01.3.2 | Beverage whiteners | 1,000 | Not Allow | mg/kg |  |
| 01.7 | Dairy-based desserts | 5,000 | Not Allow | mg/kg |  |
| 02.1.2 | Vegetable oils and fats | 10,000 | Not Allow | mg/kg |  |
| 02.1.3 | Lard, tallow, fish oil, and other animal fats | 10,000 | Not Allow | mg/kg |  |
| 02.2.2 | Fat spreads, dairy fat spreads and blended spreads | 20,000 | 10,000 | mg/kg |  |
| 2.4 | Fat-based desserts | 40,000 | Not Allow | mg/kg |  |
| 3.0 | Edible ices, including sherbet and sorbet | 5,000 | Not Allow | mg/kg |  |
| 04.1.2.8 | Fruit preparations | 40,000 | Not Allow | mg/kg |  |
| 04.1.2.9 | Fruit-based desserts | 40,000 | Not Allow |  |  |


|  |  |  |  | $\mathrm{mg} / \mathrm{kg}$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 05.1 .1 | Cocoa mixes (powders) and cocoa <br> mass/cake | 5,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 06.4 .3 | Pre-cooked pastas and noodles and like <br> products | 5,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 6.5 | Cereal and starch based desserts | 40,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 7.0 | Bakery wares | 15,000 | 5,000 | $\mathrm{mg} / \mathrm{kg}$ | 11,72 |
| 10.4 | Egg-based desserts (e.g., custard) | 40,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 14.1 .4 | Water-based flavored drinks | 500 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |

- SUCROGLYCERIDES (INS 474)

|  |  | Max Level |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Number | Food Category | CODEX | Revised <br> Thai FDA | Units | Notes |
|  | Dairy-based drinks, flavored and/or <br> fermented (e.g., chocolate milk, cocoa, <br> eggnog, drinking yoghurt, whey-based <br> drinks) | 5,000 | Not Allow | $\mathrm{mg} / \mathrm{kg}$ |  |
| 01.1 .2 | Fine bakery wares (sweet, salty, savory) <br> and mixes | 10,000 | 5,000 | $\mathrm{mg} / \mathrm{kg}$ |  |
| 07.2 |  |  |  |  |  |

End of the Report.

