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# GAIN Report

Global Agricultural Information Network

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## **Thailand**

**Post:** Bangkok

### **Food Additives - Coloring Permitted in Thailand**

**Report Categories:**

Sanitary/Phytosanitary/Food Safety

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**Report Highlights:**

TH1010: This report provides a list of color additives permitted to be used in foods in Thailand. The report also includes relevant ministerial notifications on food additives and the set maximum permitted amount of each color additive to be used in specific food product.

**General Information:**

Food additives mean the substances which normally are not used as food or essential ingredients of food, whether or not such substances have nutritional benefits, but which are added for the benefits of production technology, food coloring, food flavoring, packing, storage or transport which may affect food quality or standard or property. They also include the substances not added to the food but contained in certain package in the same container with food for the purpose mentioned earlier i.e. moisture absorber, oxygen absorber, etc.

In Thailand, food additives are specified as specifically-controlled food of which the quality or standards are defined. Use of food additives must follow the set objectives for specified kinds of food and maximum permissible quantity, food additive functional classes categorized according to CODEX as listed below:

- Acid
- Acidity regulator
- Anticaking agent
- Antifoaming agent
- Antioxidant
- Bulking agent
- Colour
- Colour retention agent
- Emulsifier
- Emulsifying salt
- Firming agent
- Flavour enhancer
- Flour treatment agent
- Foaming agent
- Gelling agent
- Glazing agent
- Humectant
- Preservative
- Propellant
- Raising agent
- Stabilizer
- Sweetener
- Thickener

Use of food additives for purposes other than stated must be petitioned for the approval by the Thai Food and Drug Administration (FDA). The required information used for the petition is available under the Notification of the Ministry of Public Health No. 281 B.E. 2547 RE: Food Additive (Appendix I).

Any food additives not listed below but are available under CODEX (GSFA), are generally acceptable by the Thai FDA. The list of permitted food additives in Thailand are provided below:

|  |  |
|--|--|
| Hydrochloric acid (INS 507)                    | Sorbic acid (INS 200)                        |
| Citric acid (INS 330)                          | Thiodipropionic acid (INS 388)               |
| Benzoic acid (INS 210)                         | Propionic acid (INS 280)                     |
| Trans-butenedioic acid (INS 297)               | Phosphoric acid (INS 338)                    |
| Formic acid (INS 236)                          | Malic acid (INS 296)                         |
| Lactic acid (INS 270)                          | Acetic acid (INS 260)                        |
| Algenic acid (INS 400)                         | Glutamic acid (INS 620)                      |
| L-Tartaric acid (INS 334)                      | L-Ascorbic acid (INS 300)                    |
| Isoascorbic acid (INS 315)                     | Guanylic acid (INS 626)                      |
| Inosinic acid (INS 630)                        | Glucono-delta-lactone (INS 575)              |
| Glycerin (INS 422)                             | Ester gum (INS 445)                          |
| Salts of oleic acid (INS 470)                  | Salts of myristic acid (INS 470)             |
| Ammonium salts of phosphatidic acid (INS 442)  | Karaya gum (INS 416)                         |
| Guar gum (INS 412)                             | Guaiac resin (INS 314)                       |
| Gamma-cyclodextrin (INS 458)                   | Beewax (INS 901)                             |
| Carnauba wax (INS 903)                         | Carbon dioxide (INS 290)                     |
| Carmoisine (INS 122)                           | Carotene (natural) (INS 160a <sub>ii</sub> ) |
| Carrageenan (INS 407)                          | Carob bean gum (INS 410)                     |
| Curdlan (INS 424)                              | Candelilla wax (INS 902)                     |
| Canthaxanthin (INS 161g)                       | Ammonia caramel (INS 150c)                   |
| Caustic caramel (INS 150a)                     | Sulfite ammonia caramel (INS 150d)           |
| Calcium guanylate (INS 629)                    | Calcium ribonucleotides (INS 634)            |
| Calcium inosinate (INS 633)                    | Calcium gluconate (INS 578)                  |
| Calcium chloride (INS 509)                     | Calcium sulfate Calcium glutamate (INS 623)  |
| Calcium carbonate (INS 170i)                   | Calcium citrate (INS 333)                    |
| Calcium silicate (INS 552)                     | Calcium sorbate (INS 203)                    |
| Calcium disodium (ethylenedinitrilo) (INS 385) | Calcium DL-malate (INS 352ii)                |
| Calcium benzoate (INS 213)                     | Calcium propionate (INS 282)                 |
| Calcium ferrocyanide (INS 538)                 | Calcium phosphate dibasic (INS 341ii)        |
| Calcium phosphate tribasic (INS 341ii)         | Calcium phosphate monobasic (INS 341i)       |

|                                      |   |
|--------------------------------------|---|
| Calcium bisulphate (INS 227)         | Calcium lactate (INS 327)               |
| Calcium stearate (INS 470)           | Calcium oxide (INS 529)                 |
| Calcium aluminium silicate (INS 556) | Calcium acetate (INS 263)               |
| Calcium alginate (INS 404)           | Calcium ascorbate (INS 302)             |
| Calcium hydroxide (INS 526)          | Chlorine (INS 925)                      |
| Chlorine dioxide (INS 926)           | Chlorophyll copper complex (INS 141 ii) |
| Carmines (INS 120)                   | Edible gelatin Gellan gum (INS 418)     |
| Shellac (INS 901)                    | Sucrose acetate isobutyrate (INS 444)   |
| Sorbitol (INS 420)                   | Sorbitan tristearate (INS 492)          |
| Sorbitan monopalmitate (INS 495)     | Sorbitan monostearate (INS 491)         |
| Sunset yellow FCF (INS 110)          | Sulfur dioxide (INS 220)                |
| Silicon dioxide (INS 551)            | Xylitol (INS 967)                       |

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| Sodium gluconate (INS 576)                            | Sodium carbonate (INS 500i)  |
| Sodium carboxymethyl cellulose (INS 466)              | Sodium carboxy-methyl cellulose enzymatically hydrolysed (INS 469) |
| Sodium sulfate (INS 514)                              | Sodium sulphite (INS 221)  |
| Sodium sesquicarbonate (INS 500iii)                   | Sodium citrate (INS 331iii)  |
| Sodium Sorbate (INS 201)                              | Sodium nitrate (INS 251)   |
| Sodium nitrite (INS 250)                              | Sodium DL-malate (INS 350ii)                                       |
| Sodium dihydrogen citrate (INS 331i)                  | Sodium phosphate tribasic (INS 339iii)                             |
| Sodium phosphate dibasic (INS 339ii)                  | Sodium Polyphosphate (INS 425i)                                    |
| Sodium phosphate monobasic (INS 339i)                 | Sodium propionate (INS 281)  |
| Sodium bicarbonate (INS 500ii)                        | Sodium benzoate (INS 211)  |
| Sodium tripolyphosphate Sodium ferrocyanide (INS 535) | Sodium fumarate (INS 365)  |
| Sodium bisulfite (INS 222)                            | Sodium metabisulfite (INS 223)                                     |
| Sodium lactate (INS 325)                              | Sodium acetate (INS 262i)  |
| Sodium aluminosilicate (INS 554)                      | Sodium alginate (INS 401)  |
| Sodium L-tartrate (INS 335ii)                         | Sodium L-ascorbate (INS 301)                                       |
| Sodium D-isoascorbate (INS 316)                       | Sodium o-phenyl phenol (INS 232)                                   |
| Sodium hydroxide (INS 524)                            | Sodium hydrogen malate D (INS 350i)                                |
| Powdered cellulose (INS 460ii)                        | Xanthan gum (INS 415)  |

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| Dextrins (INS 1400)                              | Triacetin (INS 1518)                |
| Triammonium citrate (INS 380)                    | Triethyl citrate (INS 1505)         |
| Tripotassium citrate (INS 332ii)                 | Trisodium citrate (INS 331iii)      |
| Titanium dioxide (INS 171)                       | Distarch phosphate (INS 1412)       |
| Dilauryl thiodipropionate (INS 389)              | Dimethyl polysiloxane (INS 900)     |
| Dimethyl dicarbonate (INS 242)                   | Dipotassium 5'-inosinate (INS 632)  |
| Dipotassium 5'-guanylate (INS 628)               | Disodium 5'-inosinate (INS 631)     |
| Disodium 5' ribonucleotide (INS 635)             | Disodium 5'-guanylate (INS 627)     |
| Dodecyl gallate (INS 312)                        | Tartrazine (INS 102)                |
| Talcum (INS 553iii)                              | Tara gum (INS 417)                  |
| Tragacanth gum (INS 413)                         | Thaumatococin (INS 957)             |
| Tocopherol concentrate mixed (INS 307b)          | Tosom (INS 479)                     |
| Nisin (INS 234)                                  | Nitrous oxide (INS 942)             |
| Beta-carotene (synthetic) (INS 160al)            | Beta-apo-8'-caotenal (INS 160e)     |
| Beta-cyclodextrin (INS 459)                      | Butylated hydroxytoluene (INS 321)  |
| Butylated hydroxyanisole (INS 320)               | Brilliant blue FCF (INS 133)        |
| Bleached starch (INS 1403)                       | Ponceau 4 R (INS 124)               |
| Konjac flour (INS 425)                           | Propane (INS 944)                   |
| Propyl gallate (INS 310)                         | Propyl paraben (INS 216)            |
| Propylene glycol (INS 1520)                      | Propylene glycol alginate (INS 405) |
| Propylene glycol esters of fatty acids (INS 477) | Vegetable carbon (INS 153)          |
| Pectin (INS 440)                                 | Potassium gluconate (INS 577)       |

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| Potassium chloride (INS 508)     | Potassium carbonate (INS 501i)          |
| Potassium sorbate (INS 202)      | Potassium sulfate (INS 515)             |
| Potassium sulfite (INS 225)      | Potassium citrate (INS 332ii)           |
| Potassium DL-malate (INS 351ii)  | Potassium dihydrogen citrate (INS 332i) |
| Potassium nitrate (INS 252)      | Potassium nitrite (INS 249)             |
| Potassium benzoate (INS 212)     | Potassium bicarbonate (INS 501ii)       |
| Potassium bisulfite (INS 228)    | Potassium propionate (INS 283)          |
| Potassium ferrocyanide (INS 536) | Potassium phosphate dibasic (INS 340ii) |

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|---|---|
| Potassium phosphate tribasic (INS 340iii)                         | Potassium phosphate monobasic (INS 340i)  |
| Potassium metabisulfite (INS 224)                                 | Potassium lactate (INS 326)   |
| Potassium acetate (INS 261)                                       | Potassium alginate (INS 402)  |
| Potassium L-Tartrate (INS 336)                                    | Potassium ascorbate (INS 303)   |
| Potassium hydroxide (INS 525)                                     | Potassium hydrogen DL malate (INS 351ii)  |
| Polyglycerol esters of fatty acids (INS 475)                      | Polyglycitol syrup (INS 964)  |
| Polydextrose (INS 1200)   | Polyvinyl pyrrolidone (INS 1201)  |
| Insoluble polyvinyl pyrrolidone (INS 1202)                        | Polyoxyethylene (20) sorbitan monostearate (INS 435)                              |
| Polyoxyethylene (20) sorbitan monooleate (INS 433)                | Polyethylene glycol (INS 1521)  |
| Pimaricin (INS 235)   | Fast green FCF (INS 143)  |
| Ferric ammonium citrate (INS 381)                                 | Ferrous gluconate (INS 579)   |
| Ferrous lactate (INS 585)   | Phosphated distarch phosphate (INS 1413)  |
| Methyl cellulose (INS 461)  | Methylparaben (INS 218)   |
| Methyl ethyl cellulose (INS 465)                                  | Beta-apo-8'-carotenoic acid (INS 160f)  |
| Magnesium gluconate (INS 580)                                     | Magnesium carbonate (INS 504i)  |
| Magnesium chloride (INS 511)                                      | Magnesium silicate (synthetic) (INS 553i)   |
| Magnesium hydroxide carbonate (INS 504 ii)                        | Magnesium DI-L glutamate (INS 625)  |
| Magnesium DL-lactate (INS 329)                                    | Magnesium stearate (INS 470)  |
| Magnesium oxide (INS 530)   | Magnesium hydroxide (INS 528)   |
| Mannitol (INS 421)  | Maltitol (INS 965)  |
| Microcristalline cellulose (INS 460 i)                            | Microcrystalline wax (INS 905ci)  |
| Monosodium glutamate (INS 621)                                    | Monopotassium glutamate (INS 622)   |
| Mono and diglycerides (INS 471)                                   | Citric acid esters of mono- and diglycerides (INS 472c)                           |
| Diacetyltartaric acid esters of mono- and diglycerides (INS 472e) | Tartaric acetic and fatty acid esters of mono-and diglyceride Tartaric (INS 472f) |
| Lactic acid esters of mono- and diglycerides (INS 472b)           | Acetic acid esters of mno- and diglycerides (INS 472a)                            |
| Momostarch phosphate (INS 1410)                                   | Riboflavin (INS 101i)   |
| Lecithin (INS 322)  | Lactitol (INS 966)  |
| Lysozyme hydrochloride (INS 1105)                                 | Processed eucheama seaweed (INS 407 a)  |
| Starch sodium octenylsuccinate (INS 1450)                         | Starch acetate (INS 1420)   |

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| Stearyl citrate (INS 484)                             | Stannous chloride (INS 512)                       |
| Beetroot red (INS 162)                                | Octyl gallate (INS 311)                           |
| Aluminium silicate (INS 559)                          | Aluminium stearate (INS 470)                      |
| Aluminium ammonium sulfate (INS 523)                  | Alpha-tocopherol (INS 307c)                       |
| Agar (INS 406)  | Acacia (INS 414)                                  |
| Ethyl cellulose (INS 462)                             | Ethyl paraben (INS 214)                           |
| Ethyl ester of beta-apo-8'-carotenoic acid (INS 160f) | Ethyl maltol (INS 637)                            |
| Ethyl hydroxyethyl cellulose (INS 467)                | Erythrosine (INS 127)                             |
| Erythritol (INS 968)                                  | Azodicarbonamide (INS 927a)                       |
| Glucose oxidase (INS 1102)                            | Enzyme treated starch (INS 1405)                  |
| Blomelium (INS 1101 iii)                              | Papain (INS 1101 ii)                              |
| Alpha-amylase enzyme Glycogenase (INS 1100)           | Protease from aspergillus oryzae var. (INS 1100i) |
| Lipase from Aspergillus oryzae var. (INS 1104)        | Acid treated starch (INS 1401)                    |
| Ammonium glutamate (INS 624)                          | Ammonium carbonate (INS 503i)                     |
| Ammonium Chloride (INS 510)                           | Ammonium citrate (INS 380)                        |
| Ammonium bicarbonate (INS 503ii)                      | Ammonium Lactate (INS 328)                        |
| Ammonium acetate (INS 264)                            | Ammonium alginate (INS 403)                       |
| Ammonium hydroxide (INS 527)                          | Ascorbyl palmitate (INS 304)                      |
| Ascorbyl stearate (INS 305)                           | Alkali treated starch (INS 1402)                  |
| Indigocarmine (INS 132)                               | Acetylated distarch glycerol (INS 1423)           |
| Acetylated distarch phosphate (INS 1414)              | Acetylated distarch adipate (INS 1422)            |
| Acid treated starch (INS 1401)                        | Oxidized starch (INS 1404)                        |
| Oxystearin (INS 387)                                  | Ortho-phenyl phenol (INS 231)                     |
| Isopropyl citrate mixture (INS 384)                   | Isomalt (INS 953)                                 |
| Hexa methylene tetramine (INS 239)                    | Hydroxypropyl cellulose (INS 463)                 |
| Hydroxypropyl distarch phosphate (INS 1442)           | Hydroxypropyl methyl cellulose (INS 464)          |
| Hydroxypropyl starch (INS 1440)                       | Ice Structuring Protein type III HPLC 12*         |

The food additives must have quality or standard according to one of the followings:

1. Conform to Codex Advisory Specification for the Identity and Purity of Food Additives.
2. Conform to the notification of the Food and Drug Administration, by the approval of Food Committee.
3. Conform to the approval of the Sub-committee for studying and analyzing the problems and diagnosing the technical issues on food; manufacturers or importers have to deliver the safety assessment of food additive of that type and detail for submitting the application, as follows:
  - 3.1 Specify elements and chemicals property of such food additive under safety assessment as follows:
    - 3.1.1 Identity and purity of food additives used in toxicity test for safety assessment.
    - 3.1.2 Reactions and Fate of Food Additives in Food.
    - 3.1.3 Specifications of food additives.

3.2. Testing and safety assessment procedures with details as follows:

3.2.1 Identify the testing indicators and study of the information on toxicity, as follows:

- (a) Functional manifestations.
- (b) Morphological manifestations.
- (c) Neoplasms.
- (d) Reproduction and developmental toxicity.
- (e) *In Vitro* studies.

3.2.2 The use of metabolic and harmacokinetic studies in safety assessment to include following issues:

- (a) Identifying relevant animal species.
- (b) Determining the mechanisms of toxicity.
- (c) Metabolism into normal body constituents.
- (d) Effects of the gut micro-flora on the chemical and effects of the chemical on the gut micro-flora.

3.2.3 Influence of age, nutritional status, and health status in the design and interpretation of studies.

3.2.4 Data from human experimentation used for safety assessment as follows:

- (a) Epidemiological studies.
- (b) Food intolerance.

3.2.5 Acceptable Daily Intake: ADI by specifying data used for determination as follows:

- (a) No-observed-effect level: NOEL.
- (b) The use of safety factor in computing
- (c) Toxicological versus physiological responses.
- (d) Comparison of Acceptable Daily Intake (ADI) against potential exposure

to such food additives.

The testing methods for such food additives must be in accordance with those prescribed in Codex Advisory Specifications for the Identify and Purity of Food Additives. In case the testing methods differ from such Specification, such methods must be one of those prescribed in the notification of the Food and Drug Administration as approved by the Food Commission.

At present the Thai FDA permitted 24 food additives as food coloring additives. A list of permitted food coloring additives, types of food to be used, and maximum permitted level are provided below:

### 1. Carmoisine (INS 122)

Other names: C.I. Food red 3, Azorubine, Disodium 4-hydroxy-3-(4-sulfonato-1-aphthylazo)-1-naphthalene-sulfonate

| Type of food | Maximum permitted amount (mg/kg) |
|--------------|----------------------------------|
|--------------|----------------------------------|

|  | <b>except otherwise specific amount is specified</b> |
|--|--|
| Beverage   | -70  |
| Ice cream  | -70  |
| Candy  | -70  |
| Dessert  | -70  |
| Infant food and continuous formula for infant and children   | -Not allowed   |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed   |
| Supplementary food for infant and young children   | -Not allowed   |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed   |
| All kinds of fresh meat  | -Not allowed   |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed   |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed   |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed   |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed   |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed   |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed   |
| Chili paste  | -Not allowed   |
| Other kinds of food in addition to the above mentioned   | -100   |

## 2. Carotene (natural) (INS 160aii)

Other names: alpha-Carotene, beta-Carotene, gamma-Carotene, C.I. Food orange 5

| <b>Type of food</b>   | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|---|---|
| Infant food and continuous formula for infant and children  | -Not allowed  |
| Modified milk for infant and continuous formula for infant and children                                       | -Not allowed  |
| Supplementary food for infant and young children  | -Not allowed  |
| Fresh fruit, preserved fruit, pickled vegetables  | -Not allowed  |
| All kinds of fresh meat   | -Not allowed  |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc. | -Not allowed  |
| All kinds of meat having been flavored and salted or sweetened e.g.   | -Not allowed  |

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| salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc.                    |              |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.           | -Not allowed |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste | -Not allowed |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.            | -Not allowed |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni                                      | -Not allowed |
| Chili paste   | -Not allowed |
| Other kinds of food in addition to the above mentioned  | -GMP Level   |

### 3. **Canthaxanthin (INS161g)**

Other names: Beta-carotene-4, 4'-dione-4,4'-Dioxo-beta-carotene, C.I. Food orange 8

| <b>Type of food</b>  | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|--|---|
| Infant food and continuous formula for infant and children   | -Not allowed  |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed  |
| Supplementary food for infant and young children   | -Not allowed  |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed  |
| All kinds of fresh meat  | -Not allowed  |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed  |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed  |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed  |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed  |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed  |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed  |
| Chili paste  | -Not allowed  |
| Other kinds of food in addition to the above mentioned   | -GMP Level  |

### 4. **Caramel (Ammonia) (INS 150c)**

Other names: Ammonia caramel, Caramel color class III

| Type of food  | Maximum permitted amount (mg/kg) except otherwise specific amount is specified |
|---|--|
| Beverage made of milk with or without flavoring or fermenting e.g. chocolate flavored milk or flavored yogurt   | -150   |
| Residues from protein coagulation by rennet enzyme  | -GMP Level   |
| Unsweetened condensed filled milk   | -GMP Level   |
| Clotted cream   | -GMP Level   |
| Margarine   | -GMP Level   |
| Powdered milk replacer and powdered non-diary cream   | -GMP Level   |
| Fresh cheese  | -GMP Level   |
| Ripened cheese rind   | -GMP Level   |
| Cheese from whey  | -GMP Level only at surface   |
| Processed cheese  | -GMP Level   |
| Imitation cheese  | -GMP Level   |
| Dessert made of milk e.g. ice cream, pudding, flavored yoghurt or mixed with fruit juice etc.   | -2,000   |
| Dessert made of non-diary fat e.g. modified ice cream etc.  | -GMP Level   |
| Iced dessert  | -1,000   |
| Fruit in vinegar, oil or salt water   | -GMP Level   |
| Canning or pasteurized fruit  | -GMP Level   |
| Jam, jelly and marmalade  | -GMP Level   |
| dessert spreading products made of fruit except jam, jelly and marmalade  | -500   |
| Preserves   | -GMP Level   |
| Pounded fruit including coconut milk  | -7,500   |
| Dessert made from fruit e.g. jelly etc. including dessert with water and fruit e.g. fresh fruit dessert etc.  | -GMP Level   |
| Fruit products used for making stuff  | -7,500   |
| Vegetable or algae in vinegar, salt water or soy sauce  | -500   |
| Canning or pasteurized vegetables   | -GMP Level   |
| Dessert spreading products made from vegetables or beans or other seeds e.g. peanut butter etc.   | -GMP Level   |
| Sauce and sauce products  | -1,500   |
| Salad e.g. macaroni salad, potato salad including sandwich spread but not including dessert spreading products e.g. peanut butter, cocoa spreading product etc. | -GMP Level   |
| Protein products e.g. protein extract from soybean, protein from wheat  | -GMP Level   |
| Adult medical foods   | -GMP Level   |
| Weight controlling diets  | -GMP Level   |

|  |            |
|--|------------|
| Dietary supplement products  | -GMP Level |
| Concentrated or dried fruit juice                                      | -GMP Level |
| Nectar vegetable juice   | -GMP Level |
| Concentrated or dried nectar vegetable juice                           | -GMP Level |
| Beverage not made from vegetable or fruit including electrolyte drinks | -GMP Level |
| Malt drinks  | -GMP Level |
| Snacks   | -GMP Level |
| Other foods in addition to the above mentioned                         | -1,000     |

### 5.Caramel (caustic) (INS150a)

Other names: Caustic caramel, Plain caramel

| <b>Type of food</b>   | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|---|---|
| Dairy products except fresh liquid milk, unflavored yoghurt, pasteurized cream, sterilized cream, UHT cream, whipping cream and low-fat cream       | -GMP Level  |
| Emulsion products e.g. margarine, minarine including similar dessert  | -GMP Level  |
| Ice cream   | -GMP Level  |
| Processed fruits e.g. dried fruit, canning processed fruits, dessert made from fruit etc.   | -GMP Level  |
| Processed vegetables, algae, hard shell nut and seeds e.g. dried vegetables, canning processed vegetables etc. except frozen and fermenting process | -1,500  |
| Dessert e.g. candy, toffee, chocolate, gum etc.   | -GMP Level  |
| Products from cereal e.g. breakfast cereal, dessert made from cereal, tempura flour and soybean products  | -GMP Level  |
| Baked products e.g. bread, cake, cookie, pie etc.   | -GMP Level  |
| Meat products except fresh lump meat or crushed meat  | -GMP Level  |
| Seafood products except fresh and frozen seafood products   | -GMP Level  |
| Egg products except fresh egg, liquid egg and frozen egg  | -GMP Level  |
| Sauce, soup, salad and protein extract  | -GMP Level  |
| Weight controlling diets and dietary supplement product   | -GMP Level  |
| Beverage except fruit and vegetable juice, mineral water, tea, coffee, herbal drinks and cereal drinks  | -GMP Level  |

### 6. Caramel (Sulfite ammonia) (INS150d)

Other names: Sulfite ammonia caramel , caramel color class IV

| <b>Type of food</b> | <b>Maximum permitted amount (mg/kg) except otherwise specific</b> |
|---------------------|---|
|---------------------|---|

|   | <b>amount is specified</b> |
|---|----------------------------|
| Beverages made from milk with or without flavoring or fermenting e.g. chocolate-flavored milk, flavored yoghurt etc.  | -150                       |
| Unflavored fermented dairy products   | -150                       |
| Residues from protein coagulation by rennet enzyme  | -GMP Level                 |
| Unsweetened condensed filled milk   | -GMP Level                 |
| Clotted cream and sour cream  | -GMP Level                 |
| Non dairy cream   | -GMP Level                 |
| Powdered filled milk and powdered non-dairy cream   | -GMP Level                 |
| Non fermented cheese  | -GMP Level                 |
| Ripened cheese rind   | -GMP Level                 |
| Clear whey  | -GMP Level only at surface |
| Processed cheese  | -100                       |
| Imitation cheese  | -GMP Level                 |
| Dessert made of milk e.g. ice cream, pudding, flavored yoghurt or mixed with fruit juice etc.   | -2,000                     |
| Dessert made of non-dairy fat e.g. modified ice cream etc.  | -GMP Level                 |
| Iced dessert  | -1,000                     |
| Fruit in vinegar, oil or salt water   | -GMP Level                 |
| Canning or pasteurized fruit  | -GMP Level                 |
| Yam, jelly and marmalade  | -1,500                     |
| Dessert spreading products made of fruit except yam, jelly and marmalade  | -500                       |
| Preserves   | -GMP Level                 |
| Pounded fruit including coconut milk  | -7,500                     |
| Dessert made from fruit e.g. jelly etc. including dessert with water and fruit e.g. fresh fruit dessert etc.  | -GMP Level                 |
| Fruit products used for making stuff  | -7,500                     |
| Vegetable or algae in vinegar, salt water or soy sauce  | -500                       |
| Canning or pasteurized vegetables   | -GMP Level                 |
| Dessert spreading products made from vegetables or beans or other seeds e.g. peanut butter etc.   | -GMP Level                 |
| Products from grounded vegetables, beans or seeds e.g. vegetable sauce, conserved or pickled vegetables etc. but not including dessert spreading products e.g. peanut butter etc. | -GMP Level                 |
| Spreading and stuffing products made of cocoa   | -GMP Level                 |
| Candy, toffee not made of cocoa, chocolate, gum and toppings  | -GMP Level                 |
| Gum   | -20,000                    |
| Toppings not made of fruit  | -GMP Level                 |
| Breakfast cereal including crushed oat  | -2,500                     |
| Cake, cookie and pie  | -GMP Level                 |
| Other baked dessert e.g. donut, muffin etc.   | -GMP Level                 |
| Products used for making cake, pancake or other baked products not including bread  | -1,200                     |

|   |  |
|---|--|
| Meat and meat products including poultry  | -GMP Level   |
| Fresh fish egg  | -GMP Level only at surface of product                              |
| Frozen and ready cooked or fried fish egg   | -GMP Level   |
| Instant fish egg  | -GMP Level   |
| Canning or fermented fish egg   | -500   |
| Fresh egg   | -GMP Level only at eggshell for decoration or marking purpose only |
| Dessert made from egg e.g. custard, Thong Yod etc.  | -GMP Level   |
| Powdered sugar and dextrose   | -GMP Level   |
| Spices, seasonings  | -GMP Level   |
| Vinegar   | -GMP Level   |
| Mustard   | -GMP Level   |
| Instant soup and clear soup by canning or frozen process  | -3,000   |
| Products for making soup or clear soup  | -GMP Level   |
| Mustard   | -1,500   |
| Salad e.g. macaroni salad, potato salad including sandwich spread but not including dessert spreading products e.g. peanut butter, cocoa spreading product etc. | -GMP Level   |
| Protein products e.g. protein extract from soybean, protein from wheat  | -GMP Level   |
| Adult medical foods   | -GMP Level   |
| Weight controlling diets  | -GMP Level   |
| Dietary supplement products   | -GMP Level   |
| Concentrated or dried fruit juice   | -GMP Level   |
| Nectar vegetable juice  | -GMP Level   |
| Concentrated or dried nectar vegetable juice  | -GMP Level   |
| Beverage not made from vegetable or fruit including electrolyte drinks  | -GMP Level   |
| Snack   | -GMP Level   |

## 7. Chlorophyll (INS 140)

Other names: Phaeophytin A magnesium complex (Chlorophyll A), Phaeophytin B magnesium complex (Chlorophyll B), Magnesium chlorophyll, Magnesium phaeophytin, C.I. Natural green 3

| Type of food  | Maximum permitted amount (mg/kg) except otherwise specific amount is specified |
|---|--|
| Modified milk for infant and continuous formula for infant and children | -not allowed   |
| Infant food and continuous formula for infant and children              | -not allowed   |
| Supplementary food for infant and young children                        | -not allowed   |

|   |              |
|---|--------------|
| Dairy products except fresh liquid milk, unflavored yoghurt, pasteurized cream, sterilized cream, UHT cream, whipping cream and low-fat cream       | -not allowed |
| Emulsion products e.g. margarine, minarine including similar dessert  | -GMP Level   |
| Ice cream   | -GMP Level   |
| Processed fruits e.g. dried fruit, canning processed fruits, dessert made from fruit etc. except otherwise specifically provided                    | -GMP Level   |
| Processed vegetables, algae, hard shell nut and seeds e.g. dried vegetables, canning processed vegetables etc. except frozen and fermenting process | -GMP Level   |
| Dessert e.g. candy, toffee, chocolate, gum etc.   | -GMP Level   |
| Products from cereal e.g. breakfast cereal, dessert made from cereal, tempura flour and soybean products  | -GMP Level   |
| Baked products e.g. bread, cake, cookie, pie etc.   | -GMP Level   |
| Meat products except fresh meat   | -GMP Level   |
| Seafood products except fresh and frozen seafood products   | -GMP Level   |
| Egg products except fresh egg, liquid egg and frozen egg  | -GMP Level   |
| Sauce, soup, salad and protein extract  | -GMP Level   |
| Weight controlling diets and dietary supplement product   | -GMP Level   |
| Beverage except fruit and vegetable juice, mineral water, tea, coffee, herbal drinks and cereal drinks  | -GMP Level   |
| Dessert e.g. candy, toffee, chocolate, gum etc.   | -GMP Level   |

### 8. Chlorophyll copper complex (INS 141ii)

Other names: Copper phaeophytin A, Copper phaeophytin B, Copper chlorophyll, Copper phaeophytin

| Type of food   | Maximum permitted amount (mg/kg) except otherwise specific amount is specified |
|--|--|
| Infant food and continuous formula for infant and children   | -Not allowed   |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed   |
| Supplementary food for infant and young children   | -Not allowed   |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed   |
| All kinds of fresh meat  | -Not allowed   |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed   |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed   |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed   |
| Fermented pork, Chinese sausage, sausage, meatball, white pork   | -Not allowed   |

|  |              |
|--|--------------|
| sausage, fried fish-paste ball, shrimp paste   |              |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc. | -Not allowed |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni                           | -Not allowed |
| Chili paste  | -Not allowed |
| Other kinds of food in addition to the above mentioned   | -GMP Level   |

### 9. Carmines (INS 120)

Other names: Cochineal carmine, C.I. Natural red 4

| Type of food   | Maximum permitted amount (mg/kg) except otherwise specific amount is specified |
|--|--|
| Infant food and continuous formula for infant and children   | -Not allowed   |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed   |
| Supplementary food for infant and young children   | -Not allowed   |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed   |
| All kinds of fresh meat  | -Not allowed   |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed   |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed   |
| -All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.   | -Not allowed   |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed   |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed   |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed   |
| Chili paste  | -Not allowed   |
| Other kinds of food in addition to the above mentioned   | -GMP Level   |

### 10. Sunset yellow FCF (INS 110)

Other names: Disodium 6-hydroxy-5-(4-sulfonato-phenylazo)-2-naphthalene-sulfonate, C.I. Food yellow 3, FD and C yellow no.6, EEC serial no.E110

| Type of food | Maximum permitted amount (mg/kg) except otherwise |
|--------------|---|
|--------------|---|

|  | <b>specific amount is specified</b> |
|--|-------------------------------------|
| Beverage   | -70                                 |
| Ice cream  | -70                                 |
| Candy  | -70                                 |
| Dessert  | -70                                 |
| Infant food and continuous formula for infant and children   | -Not allowed                        |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed                        |
| Supplementary food for infant and young children   | -Not allowed                        |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed                        |
| All kinds of fresh meat  | -Not allowed                        |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed                        |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed                        |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed                        |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed                        |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed                        |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed                        |
| Chili paste  | -Not allowed                        |
| Other kinds of food in addition to the above mentioned   | -200                                |

### 11. Titanium dioxide (INS 171)

Other names: C.I. Pigment white 6

| <b>Type of food</b>   | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|---|---|
| Infant food and continuous formula for infant and children  | -not allowed  |
| Modified milk for infant and continuous formula for infant and children   | -not allowed  |
| Supplementary food for infant and young children  | -not allowed  |
| Dairy products except fresh liquid milk, unflavored yoghurt, pasteurized cream, sterilized cream, UHT cream, whipping cream and low-fat cream | -GMP Level  |
| Emulsion products e.g. margarine, minarine including similar dessert  | -GMP Level  |
| Ice cream   | -GMP Level  |
| Processed fruits e.g. dried fruit, canning processed fruits, dessert made   | -GMP Level  |

|   |              |
|---|--------------|
| from fruit etc. except otherwise specifically provided  |              |
| Processed vegetables, algae, hard shell nut and seeds e.g. dried vegetables, canning processed vegetables etc. except frozen and fermenting process | -GMP Level   |
| Dessert e.g. candy, toffee, chocolate, gum etc.   | -GMP Level   |
| Products from cereal e.g. breakfast cereal, dessert made from cereal, tempura flour and soybean products  | -GMP Level   |
| Baked products e.g. bread, cake, cookie, pie etc.   | -GMP Level   |
| Meat products except fresh meat   | -GMP Level   |
| Seafood products except fresh and frozen seafood products   | -GMP Level   |
| Infant food and continuous formula for infant and children  | -not allowed |
| Egg products except fresh egg, liquid egg and frozen egg  | -GMP Level   |
| Sauce, soup, salad and protein extract  | -GMP Level   |
| Weight controlling diets and dietary supplement product   | -GMP Level   |
| Beverage except fruit and vegetable juice, mineral water, tea, coffee, herbal drinks and cereal drinks  | -GMP Level   |

## 12. Tartrazine (INS 102)

**Other names:** Trisodium 5-hydroxy-1-(4-sulfonatophenyl)-4-(4-sulfonatophenyl-azo)-H-pyrazol-3-carboxylate, C.I. Food yellow 4, FD and C yellow no.5, EEC serial no.E102

| <b>Type of food</b>  | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|--|---|
| Beverage   | -70   |
| Ice cream  | -70   |
| Candy  | -70   |
| Dessert  | -70   |
| Infant food and continuous formula for infant and children   | -Not allowed  |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed  |
| Supplementary food for infant and children   | -Not allowed  |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed  |
| All kinds of fresh meat  | -Not allowed  |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed  |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed  |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed  |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed  |

|  |              |
|--|--------------|
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc. | -Not allowed |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni                           | -Not allowed |
| Chili paste  | -Not allowed |
| Other kinds of food in addition to the above mentioned   | -200         |

### 13. Beta-carotene (synthetic) (INS 106a)

Other names: Beta, beta-carotene, C.I. food orange 5

| Type of food   | Maximum permitted amount (mg/kg) except otherwise specific amount is specified |
|--|--|
| Infant food and continuous formula for infant and children   | -Not allowed   |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed   |
| Supplementary food for infant and children   | -Not allowed   |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed   |
| All kinds of fresh meat  | -Not allowed   |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed   |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed   |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed   |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed   |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed   |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed   |
| Chili paste  | -Not allowed   |
| All kinds of oil and fat   | -25  |

### 14. Beta-apo-8'-carotenal (INS 160e)

Other names: Carotenal, beta-apo-8', 8'-apo-beta-carotenal, C.I. food orange 6

| Type of food | Maximum permitted amount (mg/kg) except otherwise specific amount is specified |
|--------------|--|
|--------------|--|

|  |              |
|--|--------------|
| Infant food and continuous formula for infant and children   | -Not allowed |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed |
| Supplementary food for infant and young children   | -Not allowed |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed |
| All kinds of fresh meat  | -Not allowed |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed |
| chili paste  | -Not allowed |
| all kinds of oil and fat   | -25          |

### 15. Brilliant blue FCF (INS 133)

Other names: C.I. food blue 2

| Type of food   | Maximum permitted amount (mg/kg) except otherwise specific amount is specified |
|--|--|
| Ice cream  | -50  |
| Candy  | -50  |
| Dessert  | -50  |
| Beverage   | -50  |
| Infant food and continuous formula for infant and children   | -Not allowed   |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed   |
| Supplementary food for infant and children   | -Not allowed   |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed   |
| All kinds of fresh meat  | -Not allowed   |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed   |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed   |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g.   | -Not allowed   |

|   |              |
|---|--------------|
| chicken, pork, beef etc.  |              |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste | -Not allowed |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.            | -Not allowed |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni                                      | -Not allowed |
| Chili paste   | -Not allowed |
| Other kinds of food in addition to the above mentioned  | -50          |

#### 16. Ponceau 4 R (INS 124)

Other names: Cochineal red A, C.I. food red 7, New coccine

| <b>Type of food</b>  | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|--|---|
| Ice cream  | -50   |
| Candy  | -50   |
| Dessert  | -50   |
| Beverage   | -50   |
| Infant food and continuous formula for infant and children   | -Not allowed  |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed  |
| Supplementary food for infant and children   | -Not allowed  |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed  |
| All kinds of fresh meat  | -Not allowed  |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed  |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed  |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed  |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed  |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed  |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed  |
| Chili paste  | -Not allowed  |
| Other kinds of food in addition to the above mentioned   | -50   |

#### 17. Vegetable carbon (INS 153)

| <b>Type of food</b>  | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|--|---|
| Infant food and continuous formula for infant and children   | -Not allowed  |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed  |
| Supplementary food for infant and children   | -Not allowed  |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed  |
| All kinds of fresh meat  | -Not allowed  |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed  |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed  |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed  |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed  |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed  |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed  |
| Chili paste  | -Not allowed  |
| Other kinds of food in addition to the above mentioned   | -50   |

### 18. Fast green FCF (INS 143)

Other names: C.I. food green 3, FD and C Green no.3

| <b>Type of food</b>  | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|--|---|
| Beverage made of milk with or without flavoring or fermenting e.g. chocolate flavored milk or flavored yoghurt | -100  |
| Dessert made of milk e.g. ice cream, pudding, flavored yoghurt or mixed with fruit juice etc.                  | -100 in dried weight  |
| Oil and fat from cow, sheep, fish and other animal   | -GMP Level  |
| Iced dessert   | -100  |
| Canning or pasteurized fruit   | -200  |
| Yam, jelly and marmalade   | -400  |
| Vegetable or algae in vinegar, salt water or soy sauce   | -300  |
| Canning or pasteurized vegetables  | -200  |

|   |   |
|---|---|
| Gum.  | -300  |
| Bread   | -100  |
| Baked products not including bread  | -100  |
| Fresh meat and fresh poultry meat   | -GMP Level only at eggshell for decoration or marking purpose |
| Processed meat and poultry meat products e.g. salted, heated or frozen etc.   | -GMP Level only at eggshell for decoration or marking purpose |
| Intestine used for making sausage   | -GMP Level only at eggshell for decoration or marking purpose |
| Cooked fish and fish products   | -100  |
| Seafood products and smoked, dried, fermented or salted seafood products      | -100  |
| Instant fish egg  | -100  |
| Fresh egg   | -GMP Level only at eggshell for decoration or marking purpose |
| Beverages not made from vegetables or fruits and including electrolyte drinks | -100  |
| Ice cream   | -70   |
| Candy   | -70   |
| Dessert   | -70   |
| Infant food and continuous formula for infant and children                    | -Not allowed  |
| Modified milk for infant and continuous formula for infant and children       | -Not allowed  |
| Supplementary food for infant and children                                    | -Not allowed  |

### 19. Methyl and ethyl esters of carotenoic acid, beta-apo-8' (INS 160f)

Other names: Methyl/ethyl 8'-apo-beta-carotene-8'-oate, C.I. food orange 7 (ethyl ester)

| Type of food   | Maximum permitted amount (mg/kg) except otherwise specific amount is specified |
|--|--|
| Infant food and continuous formula for infant and children   | -Not allowed   |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed   |
| Supplementary food for infant and children   | -Not allowed   |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed   |
| All kinds of fresh meat  | -Not allowed   |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed   |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed   |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g.   | -Not allowed   |

|   |              |
|---|--------------|
| chicken, pork, beef etc.  |              |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste | -Not allowed |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.            | -Not allowed |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni                                      | -Not allowed |
| Chili paste   | -Not allowed |
| All kinds of oil and fat  | -25          |

## 20. Riboflavin (INS 101i)

Other names: 7,8 –Dimethyl-10-(1'-D-ribityl) isoalloxazine, Lactoflavin, Vitamin B2

| <b>Type of food</b>  | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|--|---|
| Infant food and continuous formula for infant and children   | -Not allowed  |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed  |
| Supplementary food for infant and children   | -Not allowed  |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed  |
| All kinds of fresh meat  | -Not allowed  |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed  |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed  |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed  |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed  |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed  |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed  |
| Chili paste  | -Not allowed  |
| Other kinds of food  | -GMP Level  |

## 21. Beetroot red (INS 162)

Other names: Beet red

| <b>Type of food</b> | <b>Maximum permitted amount (mg/kg)</b> |
|---------------------|---|
|---------------------|---|

|   | <b>except otherwise specific amount is specified</b> |
|---|--|
| Modified milk for infant and continuous formula for infant and children   | -Not allowed   |
| Infant food and continuous formula for infant and children  | -Not allowed   |
| Supplementary food for infant and children  | -Not allowed   |
| Dairy products except fresh liquid milk, unflavored yoghurt, pasteurized cream, sterilized cream, UHT cream, whipping cream and low-fat cream       | -GMP Level   |
| Emulsion products e.g. margarine, minarine including similar dessert  | -GMP Level   |
| Ice cream   | -GMP Level   |
| Processed fruits e.g. dried fruit, canning processed fruits, dessert made from fruit etc. except otherwise specifically provided                    | -GMP Level   |
| Processed vegetables, algae, hard shell nut and seeds e.g. dried vegetables, canning processed vegetables etc. except frozen and fermenting process | -GMP Level   |
| Dessert e.g. candy, toffee, chocolate, gum etc.   | -GMP Level   |
| Products from cereal e.g. breakfast cereal, dessert made from cereal, tempura flour and soybean products  | -GMP Level   |
| Baked products e.g. bread, cake, cookie, pie etc.   | -GMP Level   |
| Meat products except fresh meat   | -GMP Level   |
| Seafood products except fresh and frozen seafood products   | -GMP Level   |
| Egg products except fresh egg, liquid egg and frozen egg  | -GMP Level   |
| Sauce, soup, salad and protein extract  | -GMP Level   |
| Weight controlling diets and dietary supplement product   | -GMP Level   |
| Beverage except fruit and vegetable juice, mineral water, tea, coffee, herbal drinks and cereal drinks  | -GMP Level   |

## 22. Ethyl ester of beta-apo-8'-carotenoic acid (INS 160f)

| <b>Type of food</b>  | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|--|---|
| Infant food and continuous formula for infant and children   | -Not allowed  |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed  |
| Supplementary food for infant and young children   | -Not allowed  |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed  |
| All kinds of fresh meat  | -Not allowed  |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.                                    | -Not allowed  |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or | -Not allowed  |

|   |              |
|---|--------------|
| shrimp etc.   |              |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.           | -Not allowed |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste | -Not allowed |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.            | -Not allowed |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni                                      | -Not allowed |
| Chili paste   | -Not allowed |
| All kinds of oil and fat  | -25          |

### 23. Erythrosine (INS 127)

Other names: C.I. food red 14, FD and C red no.3

| <b>Type of food</b>  | <b>Maximum permitted amount (mg/kg) except otherwise specific amount is specified</b> |
|--|---|
| Beverage   | -70   |
| Ice cream  | -70   |
| Candy  | -70   |
| Dessert  | -70   |
| Infant food and continuous formula for infant and children   | -Not allowed  |
| Modified milk for infant and continuous formula for infant and children  | -Not allowed  |
| Supplementary food for infant and children   | -Not allowed  |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed  |
| All kinds of fresh meat  | -Not allowed  |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed  |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed  |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed  |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed  |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed  |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed  |
| Chili paste  | -Not allowed  |
| Other kinds of food in addition to the above mentioned   | -100  |

## 24. Indigocarmine (INS 132)

Other names: Indigotine, C.I. food blue 1, FD and C blue no.2

| Type of food   | Maximum permitted amount (mg/kg) except otherwise specific amount is specified |
|--|--|
| Beverage   | -70  |
| Ice cream  | -70  |
| Candy  | -70  |
| Dessert  | -70  |
| Infant food  | -Not allowed   |
| Modified milk for infant   | -Not allowed   |
| Supplementary food for children  | -Not allowed   |
| Fresh fruit, preserved fruit, pickled vegetables   | -Not allowed   |
| All kinds of fresh meat  | -Not allowed   |
| All kinds of meat having been flavored, smoked or dried e.g. dried fish, dried shrimp or dried shellfish etc.  | -Not allowed   |
| All kinds of meat having been flavored and salted or sweetened e.g. salted fish, salted shrimp, salted beef, salted shellfish, sweetened fish or shrimp etc. | -Not allowed   |
| All kinds of meat having been grilled, baked, steamed or deep fried e.g. chicken, pork, beef etc.  | -Not allowed   |
| Fermented pork, Chinese sausage, sausage, meatball, white pork sausage, fried fish-paste ball, shrimp paste  | -Not allowed   |
| Crisp rice e.g. shrimp or fish crisp rice or other crisp rice in other shape and appearance etc.   | -Not allowed   |
| Instant noodle, noodle, wonton, Chinese noodle, spaghetti and macaroni   | -Not allowed   |
| Chili paste  | -Not allowed   |
| Other kinds of food in addition to the above mentioned   | -100   |

## APPENDIX

**Appendix I:** The Notification of the Ministry of Public Health No. 281 Re: Food Additive

**Notification of the Ministry of Public Health  
(No.281) B.E.2547  
Re: Food Additive**

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Whereas it is expedient to revise Notification of the Ministry of Public Health regarding Food Coloring, Food Flavoring and Food Additives in order to respond to current situation and to enhance

consumer protection efficiency,

By virtue of the provision of Section 5 and Section 6 (1)(2)(4)(5)(6)(7)(9) and (10) of Food Act B.E.2522, which is an act containing some provisions concerning the limitation of the rights and freedom of a person, which Section 29 in combination with Section 35, Section 39, Section 48 and Section 50 of the Constitution of the Kingdom of Thailand prescribes to be permissible by virtue of a legislation, the Minister of Public Health hereby issues a notification as follows:

Clause 1. The followings shall be repealed:

1. Notification of the Ministry of Public Health No.21 (B.E.2522) regarding Designating Food Coloring as Specifically Controlled Food and Determining its Quality or Standard, Usage, Mixing and Labeling dated 13 September B.E.2522
2. Notification of the Ministry of Public Health No.38 (B.E.2522) regarding Designating Food Flavoring as Specifically Controlled Food and Determining its Quality or Standard dated 13 September B.E.2522
3. Notification of the Ministry of Public Health No.55 (B.E.2524) regarding Amendment to Notification of the Ministry of Public Health No.21 (B.E.2522) dated 2 January B.E.2524
4. Notification of the Ministry of Public Health No.66 (B.E.2525) regarding Amendment to Notification of the Ministry of Public Health No.55 (B.E.2524) dated 11 January B.E.2525
5. Notification of the Ministry of Public Health No.84 (B.E.2527) regarding Food Additives dated 25 December B.E.2527
6. Notification of the Ministry of Public Health No.119 (B.E.2532) regarding Food Additives (No.2) dated 8 February 2532

Clause 2. Food additives shall be categorized as specifically controlled food.

Clause 3. Food additives shall mean any substance which is normally not used as food or material component of food and whether such substance has nutritional benefit or not, but is rather added to food for the purpose of production technology, food coloring, food flavoring, packaging, storing or transporting which may affect food quality or standard or property. It shall include those substances not added to the food but contained in certain package in the same container with food for the purposes mentioned above e.g. moisture absorber, oxygen absorber etc.

The aforesaid paragraph shall not include nutrients added for the purpose of enhancing or maintaining nutrition value e.g. protein, fat, carbohydrate, vitamin and minerals.

Clause 4. Food additives shall possess quality or standard subject to one of the followings:

1. As prescribed in Codex Advisory Specification for the Identity and Purity of Food Additives
2. As prescribed by the Notification of Food and Drug Administration with the approval of the Food Commission
3. As approved by the Committee for the Problems Analysis and Technical Determination in relation to Food whereas the producer or importer shall be required to submit safety assessment results of such food additive with details for applying for approval as follows:
  - (3.1) Specify elements and chemical property of such food additive under safety assessment as follows:
    - (3.1.1) Identity and purity
    - (3.1.2) Reactions and fate of food additives in food
    - (3.1.3) Specifications
  - (3.2) Testing and safety assessment procedures with details as follows:
    - (3.2.1) Specify indicators used in toxicity tests and study as follows:
      - (a) Functional manifestations

- (b) Morphological manifestations
- (c) Neoplasm
- (d) Reproduction and developmental toxicity
- (e) *In Vitro* studies

(3.2.2) The use of metabolic and pharmacokinetic studies in safety assessment to include following issues

- (a) Identifying relevant animal species
- (b) Determining the mechanisms of toxicity
- (c) Metabolism into normal body constituents
- (d) Effects of the gut micro-flora on the chemical and effects of the chemical on the gut

micro-flora

(3.2.3) Influence of age, nutritional status and health status in the design and interpretation of studies

(3.2.4) Data from human experimentation used for safety assessment as follows:

- (a) Epidemiological studies
- (b) Food intolerance

(3.2.5) Acceptable Daily Intake: ADI by specifying data used for determination as follows:

- (a) No-observed-effect level: NOEL
- (b) Safety factor
- (c) Toxicological versus physiological responses
- (d) ADI against potential exposure to such food additives

Clause 5. Testing methods for such food additives shall be in accordance with those prescribed in Codex Advisory Specification for the Identity and Purity of Food Additives. In case testing methods differ from such Specification, such methods shall be one of those prescribed in the Notification of the Food and Drug Administration as approved by the Food Commission.

Clause 6. The use of food additives shall be based on type of food additives, type of food, and Maximum permitted amount, which subject to one of the following conditions:

6.1 Most updated Codex General Standard for Food Additives.

6.2 Notification of the Food and Drug Administration as approved by the Food Commission.

6.3 The use of food additives differing from 6.1 and 6.2 above shall be approved by the Food and Drug Administration.

Clause 7. In respect of the use of food additives differing from Article 6 above and which has been approved by the Food and Drug Administration before the effective date of this Notification, the person to whom approval has been given to shall revise or improve the use of food additives to be in compliance with this Notification within one year from the effective date of this Notification.

Clause 8. The producer or importer of food additives for sale shall comply with Notification of the Ministry of Public Health Regarding Production Method, Production Tools and Equipment and Food Storage.

Clause 9. The use of container of food additives shall be in compliance with the Notification of the Ministry of Public Health Regarding Food Container.

Clause 10. Displaying of label of food additives shall be in accordance with the Notification of the Ministry of Public Health Regarding Label.

Clause 11. This Notification shall exclude flavoring agents as per the Notification of the Ministry of Public Health Regarding Flavoring Agents.

Clause 12. Certificate of registration of food recipe, food label or food registration number which has been issued and not in contradiction to this Notification shall continue to be valid. In the event that such registration is in contradiction to this Notification, it shall be valid for the period not

exceeding one year from the effective date of this Notification.

Clause 13 This Notification shall come into force from the date following its publication date in the Royal Government Gazette henceforth.

Given on this 18<sup>th</sup> day of August 2004

(Signature) Sudarat Keyuraphan  
(Mrs. Sudarat Keyuraphan)  
Minister of Public Health

**Appendix II:** The Notification of Food and Drug Administration Re : Prescription of quality or standards of combined food additives

**Notification of Food and Drug Administration  
Re : Prescription of quality or standards of combined food additives**  
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By the virtue of provision clause 4(2) of the Notification of the Ministry of Public Health (No.281) B.E. 2547 (2004) Re : Food Additives dated 18 August B.E.2547 which issued by the virtue of provisions of Section 5 and 6 (1)(2)(4)(6)(7)(9) and (10) of the Food Act B.E.2522 (1979), in which contain provisions in relation to the restriction of Rights and Liberties of the Persons, in respect of which Section 29 and in conjunction with Section 35, Section 39, Section 48 and Section 50 of the Constitution of the Kingdom of Thailand so permit by the virtue of provisions of law : the Food and Drug Administration according to an approval of the Food Committee in the Meeting 8/2547 on the

22th October B.E. 2548 issues the Notification as follows :

Clause 1. Combined Food Additives mean Food additives derived from mixing together with two or more kinds of food additives or other kinds of substances.

Clause 2. Combined Food Additives shall have quality or standards as follows:

2.1 Shall be single food additives that have quality or standards as specified in Codex Advisory Specifications for the Identity and Purity of Food Additives or as prescribed by the Food and Drug Administration or as to approval by the Sub-committee of Problem Analysis and Technical Determination for Food and if mixing with other substances which are not food additives, that substances shall not harm to health.

2.2 Lead not more than 10 mg/kg

2.3 Arsenic (calculate as arsenic) not more than 3 mg/kg

2.4 In case of mixing with other substances, which are not food additives and are not fat and oil, shall also have microbial quality or standards as follows:

2.4.1 *Salmonella spp.* not detected in 25 g

2.4.2 *Clostridium perfringens* not detected in 0.01 g

2.4.3 *Escherichia coli* less than 3 by MPN

2.4.4 *Staphylococcus aureus* less than 100/g

Clause 3 Additional evidence documents for consideration apply for Food Registration or apply for Food Labeling of Combined Food Additives are as follows:

3.1 Specification documents of Combined Food Additives

3.2 Analysis results of Combined Food Additives which prescribed in clause 2.2 to 2.4 and comply with Principles of Food Registration or Food labeling application, in any case;

3.3 Evidences that indicate quality or standards of raw material producing the food additives comply with Clause 4 of the Notification of Ministry of Public Health (No.281) B.E.2547 (2004) Re: Food Additives dated 18th August B.E.2547 (2004) by having either evidences as follows :

3.3.1 Analysis results from official agency or officially certified agency.

3.3.2 Evidences of receiving food serial number of that food additive.

3.3.3 Certification from competent laboratory in testing those test according to ISO/IEC 17025 or equivalent.

3.3.4 Specification of that food additives to be mixed.

Notified on 3rd November B.E.2547 (2004)

(sign) Pakdee Photisiri

(Mr.Pakdee Photisiri)

Deputy undersecretary acting for  
Secretary – General of Food and Drug Administration

**Appendix III**: The Notification of Food and Drug Administration Re : Principle of using food additives test methods different from requirements in Codex Advisory Specification for the Identity and Purity of Food Additives

**Notification of Food and Drug Administration**  
**Re : Principle of using food additives test methods different from requirements in Codex**  
**Advisory Specification for the Identity and Purity of Food Additives**

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By the virtue of provision clause 5 of the Notification of the Ministry of Public Health (No.281) B.E. 2547 (2004) Re : Food Additives dated 18 August B.E.2547 which issued by the virtue of provisions of Section 5 and 6 (1)(2)(4)(5)(6)(7)(9) and (10) of the Food Act B.E.2522 (1979), in which contain provisions in relation to the restriction of Rights and Liberties of the Persons, in respect of which Section 29 and in conjunction with Section 35, Section 39, Section 48 and Section 50 of the Constitution of the Kingdom of Thailand so permit by the virtue of provisions of law : Food and Drug

Administration according to an approval of the Food Committee in the Meeting 8/2547 on the 22nd October B.E. 2547 issues the Notification as follows :

Clause 1. Shall be methods specified in international, regional or national standards.

Clause 2. In case of not comply with clause 1, shall be (accurate) methods that are able to accurately detect required substances which less than or equal to amount (of less have detection limit lower than or equal to the amount) specified in the standards which evaluated characteristic performance in collaborative study by using approved principle such as Official methods of analysis of AOAC International, in case of no characteristics performance in collaborative study, there shall be single laboratory validation according to recognized International Guideline such as Harmonized IUPAC Guideline for Single Laboratory Validation or EURACHEM.

Results of the evaluation shall be evidence documents which are auditable in quality system.

Notified on 3rd November B.E.2547 (2004)  
(sign) Pakdee Photisiri  
(Mr.Pakdee Photisiri)  
Deputy undersecretary acting for  
Secretary-General of Food and Drug Administration

**Appendix IV**: The Notification of Food and Drug Administration Re: Prescribed the Use of Food Additive

**Notification of Food and Drug Administration  
Re: Prescribed the Use of Food Additive**  
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By the virtue of provision clause 6(2) of the Notification of Ministry of Public Health (No. 281) B.E. 2547 (2004) Re: Food Additives dated 18 August B.E. 2547 which issued by the virtue of provisions of Section 5 and 6 (1)(2)(4)(6)(7)(9) and (10) of the Food Act B.E. 2522 (1979), in which contain provisions in relation to the restriction of Rights and Liberties of the Persons, in respect of which Section 29 and in conjunction with Section 35, Section 48, and Section 50 of the Constitution of the Kingdom of Thailand so permit by the virtue of provisions of law. The Food and Drug Administration according to an approval of the Food Committee in the Meeting 8/2547 on the 22<sup>nd</sup> October B.E. 2548 issues the Notification as follows:

Clause 1. The use of food additives shall comply with food additive name, type, and the permitted maximum use level except otherwise specific conditions are specified in the attached table of this notification.

Clause 2. Where two or more food additives from the same functional class may be added to a food, the maximum permitted level after combination shall not exceed the permitted maximum level of the food additive that has the lowest tolerance.

Notified on 3<sup>rd</sup> November B.E. 2547 (2004)

(sign) Pakdee Photisiri

(Mr. Pakdee Photisiri)

Deputy Undersecretary Acting for  
Secretary General of Food and Drug Administration