

**I. PROCESSING AIDS CATEGORIES:**

**(1) Antifoaming Agents:** Substances that reduce and hinder the formation of foam during processing of liquid food products.

**(2) Catalyst:** Substances that increase the rate of a chemical reaction without itself undergoing any permanent chemical change.

**(3) Clarifying Agents and Filtration Agents:** Substances that are used to remove suspended solids from liquids by inducing flocculation and those substances which aid in the process of filtration.

**(4) Lubricants, Release and Antistick Agents:** Substances which help to reduce friction between food contact surfaces and substances that provide critical barrier between molding surface and the substrate facilitating separation of cured part from the mold.

**(5) Microbial Control Agents, Microbial Nutrients and Microbial Nutrient Adjuncts**

**(a) Microbial Control Agents:** Substances that can be used to inactivate target organisms in the processing of foods.

**(b) Microbial Nutrients and Microbial Nutrient Adjuncts:** Substances that can be used to enhance the growth of the microbial culture intended to be used in food processing.

**(6) Solvent for Extraction and Processing:** Processing aids that help in the separation of a particular substance from a mixture by dissolving that substance in a solvent that will dissolve it, but which will not dissolve any other substance in the mixture.

**(7) Bleaching, Washing, Peeling and Denuding Agents:** Substances that can be used in making food products white or colorless and substances that aid in surface treatment (washing, denuding and peeling) of food specified in these regulations.

**(8) Flocculating Agents:** Substances that promote flocculation by forming colloids and other suspended particles in liquids to aggregate and forming a floc. Flocculants are used to improve the sedimentation or filterability of small particles.

**(9) Contact Freezing and Cooling Agents:** Substances that can cause rapid freezing on contact with food.

**(10) Desiccating Agent:** Substances that extract water and prevent the formation of lumps during manufacturing of food products. They are either soluble or insoluble substances that adsorb water due to their chemical properties.

**(11) Enzymes:** These are macromolecular biological catalysts which accelerate chemical reactions in the treatment or processing of raw materials, foods, or ingredients. The enzymes may be used as a

processing aid to perform any technological purpose if the enzyme is derived from the corresponding source specified in the table.

## (12) Generally permitted processing aids

This category includes processing aids which have different technological functions. They shall be used as per the conditions specified in the corresponding table under these regulations.

## II. USE OF PROCESSING AIDS IN FOOD PRODUCTS:

The processing aids listed in Table 1 to Table 12 may be used in the course of manufacture of food specified in the corresponding table, provided the final food contains not more than the corresponding residue level specified in the Table.

**TABLE 1: ANTIFOAMING AGENTS**

| S. No.            | Name of the processing aid       | Product Category                                                                                     | Residual level (mg/kg) (Not more than) |
|-------------------|----------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------|
| 1.                | Coconut oil                      | Juices                                                                                               | GMP                                    |
| 2.                | Hydrogenated coconut oil         | Confectionary                                                                                        | 15                                     |
|                   |                                  | Vegetable protein                                                                                    | GMP                                    |
| 3.                | Polydimethylsiloxane (INS 900a)  | Beer, fats & oils, vegetable protein, Juices, Potato processing <sup>81</sup> [,alcoholic beverages] | 10                                     |
| 4.                | Polyethylene glycol (INS 1521)   | All foods                                                                                            | GMP                                    |
| 5.                | Propylene glycol (INS 1520)      | All foods                                                                                            | GMP                                    |
| 6.                | Sorbitan monolaurate (INS 493)   | All foods                                                                                            | 1                                      |
| 7.                | Sorbitan monooleate (INS 494)    | All foods                                                                                            | 1                                      |
| 8.                | Vegetable fatty acid esters      | Juices                                                                                               | GMP                                    |
| <sup>81</sup> [9. | Polysorbate Sorbitan Monolaurate | Sugar                                                                                                | GMP]                                   |

**TABLE 2: CATALYST**

| S. No. | Name of the processing aid       | Product Category              | Residual Level (mg/kg)<br>Not more than |
|--------|----------------------------------|-------------------------------|-----------------------------------------|
| 1      | Chromium (excluding chromium VI) | Hydrogenated vegetable oil    | 0.1                                     |
| 2.     | Copper                           | Hydrogenated vegetable oil    | 0.1                                     |
| 3.     | Molybdenum                       | Hydrogenated vegetable oil    | 0.1                                     |
| 4.     | Nickel                           | Polyols                       | 1                                       |
|        |                                  | Hardened oil                  | 0.8                                     |
|        |                                  | Hydrogenated vegetable oil    | 1.5                                     |
| 5.     | Potassium                        | Interesterified vegetable oil | 1                                       |
| 6.     | Potassium ethoxide               | Interesterified vegetable oil | 1                                       |
| 7.     | Sodium                           | Interesterified vegetable oil | 1                                       |
| 8.     | Sodium ethoxide                  | Interesterified vegetable oil | 1                                       |
| 9.     | Sodium methoxide                 | Interesterified vegetable oil | 1                                       |

**TABLE 3: CLARIFYING AGENTS AND FILTRATION AIDS**

| S. No. | Name of the processing aid                               | Product Category                                                                                      | Residual level (mg/kg)<br>(Not more than) |
|--------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| 1.     | Acid clays of montmorillonite                            | Fruit or vegetable juices, fruit nectars, syrups <sup>81</sup> [,oils] and wine                       | GMP                                       |
| 2.     | Chitosan sourced from <i>Aspergillus niger</i>           | Wine, beer, cider, spirits and food grade ethanol                                                     | GMP                                       |
| 3.     | Chloro methylated aminated styrene-divinyl benzene resin | Sugar                                                                                                 | 1                                         |
| 4.     | Co-extruded polystyrene and polyvinyl polypyrrolidone    | Fruit or vegetable juices, fruit nectars, syrups and <sup>81</sup> [Alcoholic beverages including low | 1                                         |

|                    |                                           |                                                                                                                                                                                                                                                      |      |
|--------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|                    |                                           | alcoholic and alcohol free counterparts]                                                                                                                                                                                                             |      |
| 5.                 | Copper sulphate (INS 519)                 | Fruit or vegetable juices, fruit nectars, syrups and wine                                                                                                                                                                                            | GMP  |
| 6.                 | Diatomaceous earth                        | Fruit or vegetable juices, Alcoholic beverages including low alcoholic and alcohol-free counterparts (as filter powder), <sup>81</sup> [non-alcoholic beverages, sharbat, sugar syrups, synthetic syrups and fruit syrups] <sup>82</sup> [and honey] | GMP  |
| 7.                 | Fish collagen, including isinglass        | Fruit or vegetable juices, fruit nectars, syrups and Alcoholic beverages including low alcoholic and alcohol-free counterparts                                                                                                                       | GMP  |
| 8.                 | Kaolin                                    | Fruit or vegetable juices, fruit nectars, syrups and wine                                                                                                                                                                                            | GMP  |
| 9.                 | Magnesium oxide (INS 530)                 | Fruit or vegetable juices, fruit nectars, syrups and wine                                                                                                                                                                                            | GMP  |
| 10.                | Perlite                                   | Starch hydrolysis                                                                                                                                                                                                                                    | GMP  |
| 11.                | Polyvinyl polypyrrolidone (INS 1201)      | Fruit or vegetable juices, fruit nectars, syrups and wine                                                                                                                                                                                            | GMP  |
| 12.                | Shellac, bleached (INS 904)               | Fruit or vegetable juices, fruit nectars, syrups and wine                                                                                                                                                                                            | GMP  |
| 13.                | Synthetic magnesium silicate (INS 553(i)) | Edible oils                                                                                                                                                                                                                                          | GMP  |
| <sup>81</sup> [14. | Calcium oxide (INS 529)                   | Preparation of Corn Flour                                                                                                                                                                                                                            | GMP  |
| 15.                | Phosphoric acid (INS 338)                 | Sugar                                                                                                                                                                                                                                                | GMP] |

<sup>73</sup>[TABLE 4: LUBRICANTS, RELEASE AND ANTISTICK AGENTS

| S. No. | Name of the processing aid                   | Product Category                                                      | Residual level (mg/kg) (Not more than) |
|--------|----------------------------------------------|-----------------------------------------------------------------------|----------------------------------------|
| 1.     | Acetylated mono- and diglycerides (INS 472a) | All foods                                                             | 100                                    |
| 2.     | Bees wax (INS 901)                           | All foods                                                             | GMP                                    |
| 3.     | Calcium carbonate (INS 170 (i) )             | All foods                                                             | GMP                                    |
| 4.     | Calcium and sodium salts of stearic acid     | Confectionery                                                         | GMP                                    |
| 5.     | Carnauba wax (INS 903)                       | Confectionery                                                         | GMP                                    |
| 6.     | Coconut Oil                                  | Confectionery, bakery wares, salts, spices, soups, cereal products    | GMP                                    |
| 7.     | Glycerin/Glycerol (INS 422)                  | All foods                                                             | GMP                                    |
| 8.     | Hydrogenated palm kernel oil (HPKO)          | Confectionery and bakery wares                                        | GMP                                    |
| 9.     | Hydrogenated vegetable oil (HVO)             | All foods                                                             | GMP                                    |
| 10.    | Icing sugar                                  | Confectionery                                                         | GMP                                    |
| 11.    | Lecithin (INS 322 (i))                       | All foods                                                             | GMP                                    |
| 12.    | Liquid paraffin (INS 905 e)                  | Confectionery                                                         | GMP                                    |
| 13.    | Magnesium stearate (INS 470(iii))            | Confectionery                                                         | GMP                                    |
| 14.    | Medium chain Triglyceride (MCT) (C6- C12)    | Confectionery, bakery wares and fruit Jelly                           | GMP                                    |
| 15.    | Oleic acid                                   | All foods                                                             | GMP                                    |
| 16.    | Palm oil/Palmolein                           | Confectionery, bakery wares, Salts, spices, soups and cereal products | GMP                                    |
| 17.    | Rice starch                                  | Confectionery                                                         | GMP                                    |
| 18.    | Sunflower oil                                | Confectionery, bakery                                                 | GMP                                    |

|                     |                                            |                                                                                                                                                                                         |      |
|---------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|                     |                                            | wares, Salts, spices, soups <sup>81</sup> [, salts, spices, sauces, salads, protein products, seasonings, fruits & vegetable products, nuts & nut products, cereal] and cereal products |      |
| 19.                 | Soybean oil                                | Confectionery and bakery wares                                                                                                                                                          | GMP  |
| 20.                 | Thermally oxidised soya-bean oil (INS 479) | All foods                                                                                                                                                                               | 320  |
| 21.                 | White mineral oil (INS 905e)               | All foods                                                                                                                                                                               | GMP] |
| <sup>81</sup> [22 . | Cocoa powder                               | Chocolates                                                                                                                                                                              | GMP  |
| 23.                 | Cottonseed oil                             | Fruits and vegetables, seasonings, bakery products, fruits & vegetable products, salt, spices and soups, cereal and cereal products, nut and nut products                               | GMP  |
| 24.                 | Magnesium hydrogen carbonate (INS 504(ii)) | Snacks                                                                                                                                                                                  | GMP  |
| 26.                 | Talc (INS 553(iii))                        | Confectionary                                                                                                                                                                           | GMP  |
| 27.                 | Tricalcium phosphate (INS 341(iii))        | Snacks                                                                                                                                                                                  | GMP] |

**TABLE 5: MICROBIAL CONTROL AGENTS, MICROBIAL NUTRIENTS AND MICROBIAL NUTRIENT ADJUNCTS**

| MICROBIAL CONTROL AGENT |                                 |                                                                           |                                        |
|-------------------------|---------------------------------|---------------------------------------------------------------------------|----------------------------------------|
| S. No.                  | Name of the processing aid      | Product Category                                                          | Residual Level (mg/kg) (Not more than) |
| 1.                      | Dimethyl dicarbonate* (INS 242) | Wine, Fruits and vegetable juices, Water based flavoured drinks           | Non-detectable                         |
| 2.                      | Lysozyme (INS 1105)             | Alcoholic beverages including low alcoholic and alcohol-free counterparts | GMP                                    |

|    |                                             |                                     |     |
|----|---------------------------------------------|-------------------------------------|-----|
| 3. | Octanoic acid                               | Meat, fruit and vegetables          | GMP |
| 4. | Sodium metasilicate (INS 550 (ii))          | Meat and poultry carcasses and cuts | GMP |
| 5. | Sodium chlorite                             | Meat, fish, fruit and vegetables    | GMP |
| 6. | Salmonella phage preparation (S16 and FO1a) | Raw meat and poultry                | GMP |

**\* Maximum usage level shall not be more than 200 mg/kg for wine, 250 mg/kg for fruits and vegetable juices and its products and 250 mg/kg for water based flavoured drinks. Residue shall be analyzed as per method specified in “Joint FAO/WHO Expert Committee on Food Additives (JECFA) specification of Dimethyl dicarbonate”.**

| <b>MICROBIAL NUTRIENTS AND MICROBIAL NUTRIENT ADJUNCTS (for sustaining microbial growth)</b> |                                   |                                               |
|----------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------|
| <b>S. No.</b>                                                                                | <b>Name of the processing aid</b> | <b>Residual Level (mg/kg) (Not more than)</b> |
| 7.                                                                                           | Adenine                           | GMP                                           |
| 8.                                                                                           | Adonitol                          | GMP                                           |
| 9.                                                                                           | Arginine                          | GMP                                           |
| 10.                                                                                          | Asparagine                        | GMP                                           |
| 11.                                                                                          | Aspartic acid                     | GMP                                           |
| 12.                                                                                          | Ammonium sulphate                 | GMP                                           |
| 13.                                                                                          | Ammonium sulphite                 | GMP                                           |
| 14.                                                                                          | Benzoic acid                      | GMP                                           |
| 15.                                                                                          | Biotin                            | GMP                                           |
| 16.                                                                                          | Calcium pantothenate              | GMP                                           |
| 17.                                                                                          | Calcium propionate (INS 282)      | GMP                                           |
| 18.                                                                                          | Copper sulphate (INS 519)         | GMP                                           |
| 19.                                                                                          | Cysteine                          | GMP                                           |
| 20.                                                                                          | Cysteine monohydrochloride        | GMP                                           |
| 21.                                                                                          | Dextran                           | GMP                                           |
| 22.                                                                                          | Ferrous sulphate                  | GMP                                           |
| 23.                                                                                          | Glutamic acid                     | GMP                                           |
| 24.                                                                                          | Glycine                           | GMP                                           |
| 25.                                                                                          | Guanine                           | GMP                                           |
| 26.                                                                                          | Histidine                         | GMP                                           |
| 27.                                                                                          | Hydroxyethyl starch               | GMP                                           |
| 28.                                                                                          | Inosine                           | GMP                                           |

|     |                                    |     |
|-----|------------------------------------|-----|
| 29. | Inositol                           | GMP |
| 30. | Manganese chloride                 | GMP |
| 31. | Manganese sulphate                 | GMP |
| 32. | Niacin                             | GMP |
| 33. | Nitric acid                        | GMP |
| 34. | Pantothenic acid                   | GMP |
| 35. | Peptone                            | GMP |
| 36. | Phytates                           | GMP |
| 37. | Polyvinylpyrrolidone<br>(INS 1201) | GMP |
| 38. | Pyridoxine hydrochloride           | GMP |
| 39. | Riboflavin<br>(INS 101 (i))        | GMP |
| 40. | Sodium formate                     | GMP |
| 41. | Sodium molybdate                   | GMP |
| 42. | Sodium tetraborate                 | GMP |
| 43. | Thiamine                           | GMP |
| 44. | Threonine                          | GMP |
| 45. | Trisodium orthophosphate           | GMP |
| 46. | Uracil                             | GMP |
| 47. | Xanthine                           | GMP |
| 48. | Zinc chloride                      | GMP |
| 49. | Zinc sulphate                      | GMP |

**TABLE 6: SOLVENT FOR EXTRACTION AND PROCESSING**

| S. No. | Name of the processing aid | Product Category                                            | Residual Level (mg/kg)<br>(Not more than) |
|--------|----------------------------|-------------------------------------------------------------|-------------------------------------------|
| 1.     | Acetone                    | <sup>81</sup> [flavouring substances]                       | 30                                        |
|        |                            | Spice oleoresins                                            | 30                                        |
|        |                            | Colours                                                     | 2                                         |
|        |                            | Vegetable oils                                              | 0.1                                       |
|        |                            | Other foods                                                 | 0.1                                       |
| 2.     | Benzyl alcohol             | Fatty acids, <sup>81</sup> [flavouring substances], colours | GMP                                       |
| 3.     | Butanol                    | Fatty acids, <sup>81</sup> [flavouring substances], colours | 10                                        |
|        |                            | Spice oleoresins                                            | 2                                         |
| 4.     | Butan-2-ol                 | Spice oleoresins                                            | 2                                         |

|     |                                             |                                                       |     |
|-----|---------------------------------------------|-------------------------------------------------------|-----|
| 5.  | Carbon dioxide<br>(INS 290)                 | <sup>81</sup> [flavouring substances]                 | GMP |
|     |                                             | Spice oleoresins                                      | GMP |
| 6.  | Cyclohexane                                 | <sup>81</sup> [flavouring substances], vegetable oils | 1   |
| 7.  | Dibutyl ether                               | <sup>81</sup> [flavouring substances]                 | 2   |
| 8.  | Diethyl ether                               | <sup>81</sup> [flavouring substances], colors         | 2   |
|     |                                             | Spice oleoresins                                      | 2   |
| 9.  | Dimethyl ether                              | <sup>81</sup> [flavouring substances]                 | 2   |
| 10. | Ethyl acetate                               | <sup>81</sup> [flavouring substances]                 | 10  |
|     |                                             | Spice oleoresins                                      | 50  |
| 11. | Ethyl alcohol                               | Spice oleoresins                                      | GMP |
|     |                                             | Other Foods                                           | GMP |
| 12. | Ethylene dichloride<br>(1,2 Dichloroethane) | Spice oleoresins                                      | 30  |
| 13. | Glycerol diacetate                          | All foods                                             | GMP |
| 14. | Glycerol monoacetate                        | All foods                                             | GMP |
| 15. | Heptane                                     | <sup>81</sup> [flavouring substances]                 | 1   |
|     |                                             | Vegetable oils                                        |     |
| 16. | Hexane                                      | <sup>81</sup> [flavouring substances], vegetable oils | 5   |
|     |                                             | Spice oleoresins                                      | 25  |
|     |                                             | Chocolate and chocolate products                      | 1   |
| 17. | Isobutane                                   | <sup>81</sup> [flavouring substances]                 | 1   |
|     |                                             | Other foods                                           | 0.1 |
| 18. | Isopropyl alcohol                           | Spice oleoresins                                      | 50  |
|     |                                             | Other foods                                           | 10  |
| 19. | Methyl alcohol                              | Spice oleoresins                                      | 50  |

|     |                                         |                                                                                                     |      |
|-----|-----------------------------------------|-----------------------------------------------------------------------------------------------------|------|
| 20. | Methylene chloride<br>(Dichloromethane) | Decaffeinated tea                                                                                   | 2    |
|     |                                         | Decaffeinated coffee                                                                                | 10   |
|     |                                         | <sup>81</sup> [flavouring substances]                                                               | 2    |
|     |                                         | Spice oleoresins                                                                                    | 30   |
|     |                                         | Vegetable oils                                                                                      | 0.02 |
| 21. | Methyl ethyl ketone<br>(butanone)       | Fatty acids, <sup>81</sup> [flavouring substances],<br>colourings, decaffeination of coffee,<br>tea | 2    |
| 22. | Methyl tert-butyl ether                 | Spice oleoresins                                                                                    | 2    |
| 23. | Propane                                 | <sup>81</sup> [flavouring substances]                                                               | 1    |
|     |                                         | Edible oils                                                                                         | 0.1  |
| 24. | Propan-1-ol                             | Spice oleoresins                                                                                    | 1    |
| 25. | Toluene                                 | <sup>81</sup> [flavouring substances]                                                               | 1    |
| 26. | Water                                   | Spice oleoresins                                                                                    | GMP  |

**TABLE 7: BLEACHING, WASHING, DENUDING AND PEELING AGENTS**

| S. No. | Name of the processing aid        | Product Category                                     | Residual level<br>(mg/kg)<br>(Not more than) |
|--------|-----------------------------------|------------------------------------------------------|----------------------------------------------|
| 1.     | Ammonium persulphate<br>(INS 923) | Yeast                                                | GMP                                          |
| 2.     | Benzoyl peroxide<br>(INS 928)     | Fruits and vegetables                                | 40<br>(as benzoic acid)                      |
| 3.     | Calcium hypochlorite              | Fruits and vegetables, flours<br>and starches, water | 1<br>(as available<br>chlorine)              |
| 4.     | Carbonic acid                     | Tripe                                                | GMP                                          |
| 5.     | Chlorine<br>(INS 925)             | Fruits and vegetables, flours<br>and starches        | 1<br>(as available<br>chlorine)              |
| 6.     | Chlorine dioxide                  | Fruits and vegetables, flours<br>and starches        | 1<br>(as available<br>chlorine)              |

|                     |                                        |                                                                                                      |                                                                                                                                                                                                         |
|---------------------|----------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.                  | Diammonium hydrogen orthophosphate     | Canned fruits and vegetables                                                                         | GMP                                                                                                                                                                                                     |
| 8.                  | Hydrogen peroxide                      | Fruits and vegetables, flours and starches                                                           | <div>5</div> <div> Amendment for substitution of highlighted provision<br/> <sup>84</sup>[5 (as hydrogen peroxide)]<br/> [This amendment shall come into force on 1<sup>st</sup> February, 2026] </div> |
| 9.                  | Peracetic acid                         | Fruits and vegetables                                                                                | GMP                                                                                                                                                                                                     |
| 10.                 | Sodium bisulphite                      | Root and tuber vegetables (not meant for those intended to be served or sold raw/fresh to consumers) | GMP                                                                                                                                                                                                     |
| 11.                 | Sodium hypochlorite                    | Fruits and vegetables, flours and starches                                                           | 1 (as available chlorine)                                                                                                                                                                               |
| 12.                 | Sodium gluconate (INS 576)             | Tripe                                                                                                | GMP                                                                                                                                                                                                     |
| 13.                 | Sodium laurate                         | Fruits and vegetables                                                                                | GMP                                                                                                                                                                                                     |
| 14.                 | Sodium/ Potassium metabisulphite       | Root and tuber vegetables (not meant for those intended to be served or sold raw/fresh to consumers) | 25                                                                                                                                                                                                      |
| 15.                 | Sodium peroxide                        | Root and tuber vegetables                                                                            | 5                                                                                                                                                                                                       |
| <sup>82</sup> [16.] | Calcium oxide (INS 529) (on dry basis) | Dried Ginger; whole and powder (unbleached or bleached)                                              | 20,000]                                                                                                                                                                                                 |

**TABLE 8: FLOCCULATING AGENTS**

| S. No. | Name of the processing aid | Product Category | Residual level mg/kg (Not more than) |
|--------|----------------------------|------------------|--------------------------------------|
|--------|----------------------------|------------------|--------------------------------------|

|    |                                    |                                         |     |
|----|------------------------------------|-----------------------------------------|-----|
| 1. | Citric acid<br>(INS 330)           | Unripened cheese – Paneer and<br>Chhana | GMP |
| 2. | Glucono delta lactone<br>(INS 575) |                                         |     |
| 3. | Lactic acid<br>(INS 270)           |                                         |     |
| 4. | Malic acid<br>(INS 296)            |                                         |     |
| 5. | Sour whey                          |                                         |     |
| 6. | Vinegar                            |                                         |     |

**TABLE 9: CONTACT FREEZING AND COOLING AGENTS**

| S. No. | Name of the processing aid   | Product Category                 | Residual level<br>(mg/kg)<br>(Not more than) |
|--------|------------------------------|----------------------------------|----------------------------------------------|
| 1      | Liquid Nitrogen<br>(INS 941) | Dairy-based desserts - Ice cream | GMP                                          |

**TABLE 10: DESICCATING AGENTS**

| S. No. | Name of the processing aid | Product Category | Residual level<br>(mg/kg)<br>(Not more than) |
|--------|----------------------------|------------------|----------------------------------------------|
| 1      | Corn starch                | Icing sugar      | GMP                                          |

<sup>73</sup>[TABLE 11: ENZYMES (for treatment or processing of raw materials, foods, or ingredients)]

| S.No | Name of the Enzyme*<br>[in order of Enzyme<br>Commission (EC)<br>number] | Source*                  | Residual level<br>(mg/kg)<br>(Not more than) |
|------|--------------------------------------------------------------------------|--------------------------|----------------------------------------------|
| 1.   | Glucose oxidase<br>(EC No. 1.1.3.4)                                      | <i>Aspergillusniger</i>  | GMP                                          |
|      |                                                                          | <i>Aspergillusoryzae</i> |                                              |
| 2.   | Catalase<br>(EC No. 1.11.1.6)                                            | <i>Aspergillusniger</i>  | GMP                                          |

|    |                                                                    |                                                                                                                                                                                                                                                              |      |
|----|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 3. | Glycero-phospholipid cholesterol acyltransferase (EC No. 2.3.1.43) | <i>Bacillus licheniformis</i>                                                                                                                                                                                                                                | GMP  |
| 4. | Transglutaminase (EC No. 2.3.2.13)                                 | <i>Streptomyces mobaraensis</i>                                                                                                                                                                                                                              | GMP  |
| 5. | Lipase triacylglycerol (EC No. 3.1.1.3)                            | <i>Rhizopusoryzae</i>                                                                                                                                                                                                                                        | GMP  |
|    |                                                                    | <i>Fusariumoxysporum</i>                                                                                                                                                                                                                                     |      |
|    |                                                                    | <i>Thermomyceslanuginosus</i>                                                                                                                                                                                                                                |      |
|    |                                                                    | <i>Rhizopusniveus</i>                                                                                                                                                                                                                                        |      |
|    |                                                                    | <i>Carica papaya</i>                                                                                                                                                                                                                                         |      |
|    |                                                                    | <i>Rhizomucormiehei</i>                                                                                                                                                                                                                                      |      |
|    |                                                                    | <i>Aspergillusniger</i>                                                                                                                                                                                                                                      |      |
|    |                                                                    | <i>Candida rugosa</i> ( <i>cylindracea</i> )                                                                                                                                                                                                                 |      |
|    |                                                                    | Pregastric bovine (calf) tissue                                                                                                                                                                                                                              |      |
|    |                                                                    | Pregastric ovine (lamb) tissue                                                                                                                                                                                                                               |      |
|    |                                                                    | <i>Penicilliumroquefortii</i>                                                                                                                                                                                                                                |      |
|    |                                                                    | Porcine pancreas                                                                                                                                                                                                                                             |      |
|    |                                                                    | <i>Mucorjavanicus</i><br>( <i>Mucorcircinelloides f. circinelloides</i> )                                                                                                                                                                                    |      |
|    |                                                                    | Rice bran                                                                                                                                                                                                                                                    |      |
|    |                                                                    | <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p style="color: red;">Insertion of provision<br/> <sup>84</sup>[<i>Aspergillus oryzae</i>]<br/> [This amendment shall come into force on 1<sup>st</sup> February, 2026]</p> </div> |      |
| 6. | Phospholipase A2 (EC No. 3.1.1.4)                                  | <i>Streptomyces violaceoruber</i>                                                                                                                                                                                                                            | GMP  |
|    |                                                                    | <sup>81</sup> [ <i>Aspergillus niger</i>                                                                                                                                                                                                                     | GMP] |
|    |                                                                    | <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p style="color: red;">Insertion of provision<br/> <sup>84</sup>[<i>Aspergillus oryzae</i>]<br/> [This amendment shall come into force on 1<sup>st</sup> February, 2026]</p> </div> |      |
| 7. | Lysophospholipase (EC No. 3.1.1.5)                                 | <i>Aspergillusniger</i>                                                                                                                                                                                                                                      | GMP  |
| 8. | Pectin esterase                                                    | <i>Aspergillusniger</i>                                                                                                                                                                                                                                      | GMP  |

|     |                                                                                            |                                           |      |
|-----|--------------------------------------------------------------------------------------------|-------------------------------------------|------|
|     | (EC No. 3.1.1.11)                                                                          |                                           |      |
| 9.  | Acylglycerol lipase<br>(EC No. 3.1.1.23)                                                   | <i>Penicilliumcamembertii</i>             | GMP  |
| 8.  | Phospholipase A1<br>(EC No. 3.1.1.32)                                                      | <i>Aspergillusniger</i>                   | GMP  |
| 9.  | Phytase<br>(EC No. 3.1.3.8)                                                                | <i>Aspergillusniger</i>                   | GMP  |
| 10. | Phosphodiesterase I<br>(EC No. 3.1.4.1)                                                    | <i>Leptographiumprocerum</i>              | GMP  |
| 11. | Phospholipase D<br>(EC No. 3.1.4.4)                                                        | <i>Streptomyces cinnamoneus</i>           | GMP  |
| 12. | Hemicellulase<br>(EC No. 3.2.1)                                                            | <i>Aspergillusniger</i>                   | GMP  |
|     |                                                                                            | <i>Trichodermareesei/ longibrachiatum</i> |      |
| 13. | Alpha amylase<br>(EC No. 3.2.1.1)                                                          | <i>Aspergillusoryzae</i>                  | GMP  |
|     |                                                                                            | <i>Aspergillusniger</i>                   |      |
|     |                                                                                            | <i>Bacillus licheniformis</i>             |      |
|     |                                                                                            | <i>Bacillus amyloliquefaciens</i>         |      |
|     |                                                                                            | <i>Bacillus subtilis</i>                  |      |
|     |                                                                                            | <i>Bacillus stearothermophilus</i>        |      |
|     |                                                                                            | Cereal (barley) malt                      |      |
| 14. | Beta amylase<br>(EC No. 3.2.1.2)                                                           | Cereal (barley) malt                      | GMP  |
|     |                                                                                            | <i>Bacillus amyloliquefaciens</i>         |      |
|     |                                                                                            | <i>Hordeumvulgare (barley)</i>            |      |
|     |                                                                                            | <sup>81</sup> [Soybean                    | GMP] |
| 15. | Glucan 1,4- $\alpha$ -glucosidase<br>(or Glucoamylase or acid maltase)<br>(EC No. 3.2.1.3) | <i>Aspergillusniger</i>                   | GMP  |
|     |                                                                                            | <i>Aspergillusoryzae</i>                  |      |
|     |                                                                                            | <i>Trichodermareesei</i>                  |      |
|     |                                                                                            | <i>Rhizopusoryzae</i>                     |      |
| 16. | Cellulase<br>(4- $\beta$ -D-glucan 4-glucanohydrolase)<br>(EC No. 3.2.1.4)                 | <i>Penicilliumfuniculosum</i>             | GMP  |
|     |                                                                                            | <i>Aspergillusniger</i>                   |      |
|     |                                                                                            | <i>Humicolainsolens</i>                   |      |
|     |                                                                                            | <i>Rasamsonia (Talaromyces) emersonii</i> |      |
|     |                                                                                            | <i>Trichodermareesei</i>                  |      |
| 17. | Beta-glucanase (endo-beta glucanase or endo-                                               | <i>Aspergillusniger</i>                   | GMP  |
|     |                                                                                            | <i>Bacillus amyloliquefaciens</i>         |      |

|     |                                                         |                                                    |     |
|-----|---------------------------------------------------------|----------------------------------------------------|-----|
|     | 1,3-beta- glucanase)<br>(EC No. 3.2.1.6)                | <i>Rasamsonia (Talaromyces) emersonii</i>          |     |
|     |                                                         | <i>Trichoderma reesei</i>                          |     |
|     |                                                         | <i>Aspergillus aculeatus</i>                       |     |
|     |                                                         | <i>Penicillium funiculosum</i>                     |     |
|     |                                                         | <i>Bacillus subtilis</i>                           |     |
|     |                                                         | <i>Trichoderma harzianum</i>                       |     |
|     |                                                         | <i>Disporotrichum dimorphosporum</i>               |     |
|     |                                                         | <i>Humicola insolens</i>                           |     |
| 18. | Inulinase<br>(EC No. 3.2.1.7)                           | <i>Aspergillus niger</i>                           | GMP |
| 19. | Endo-1,4-beta-xylanase<br>(EC No. 3.2.1.8)              | <i>Aspergillus niger</i>                           | GMP |
|     |                                                         | <i>Bacillus licheniformis</i>                      |     |
|     |                                                         | <i>Disporotrichum dimorphosporum</i>               |     |
|     |                                                         | <i>Rasamsonia (Talaromyces) emersonii</i>          |     |
|     |                                                         | <i>Trichoderma reesei (longibrachiatum)</i>        |     |
|     |                                                         | <i>Humicola insolens</i>                           |     |
| 20. | Dextranase<br>(EC No. 3.2.1.11)                         | <i>Chaetomium erraticum</i>                        | GMP |
| 21. | Polygalacturonase<br>(pectinase)<br>(EC No. 3.2.1.15)   | <i>Aspergillus niger</i>                           | GMP |
|     |                                                         | <i>Aspergillus aculeatus</i>                       |     |
| 22. | Lysozyme<br>(EC No. 3.2.1.17)                           | <i>Gallus gallus</i> egg                           | GMP |
| 23. | Alpha-glucosidase<br>(EC No. 3.2.1.20)                  | <i>Aspergillus niger</i>                           | GMP |
|     |                                                         | <i>Trichoderma reesei</i>                          |     |
| 24. | Beta-glucosidase<br>(EC No. 3.2.1.21)                   | <i>Aspergillus niger</i>                           | GMP |
|     |                                                         | <i>Kluyveromyces lactis</i>                        |     |
|     |                                                         | <i>Trichoderma reesei / longibrachiatum</i> CL 847 | GMP |
| 25. | Alpha-galactosidase<br>(melibiase)<br>(EC No. 3.2.1.22) | <i>Aspergillus oryzae</i>                          | GMP |
|     |                                                         | <i>Aspergillus niger</i>                           | GMP |
|     |                                                         | <i>Mortierella vinacea</i>                         | GMP |
|     |                                                         | <i>Saccharomyces carlsbergensis</i>                | GMP |
| 26. | Beta-galactosidase<br>(lactase)<br>(EC No. 3.2.1.23)    | <i>Kluyveromyces lactis</i>                        | GMP |
|     |                                                         | <i>Bacillus circulans</i>                          |     |

|     |                                                                            |                                                                                                                                                                                                                                                                       |     |
|-----|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|     |                                                                            | <i>Saccharomyces sp.</i>                                                                                                                                                                                                                                              |     |
|     |                                                                            | <i>Aspergillus niger</i>                                                                                                                                                                                                                                              |     |
|     |                                                                            | <i>Aspergillus oryzae</i>                                                                                                                                                                                                                                             |     |
|     |                                                                            | <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p style="color: red;">Insertion of provision<br/> <sup>84</sup>[<i>Bacillus licheniformis</i>]<br/> [This amendment shall come into<br/> force on 1<sup>st</sup> February, 2026]</p> </div> |     |
| 27. | Beta- fructofuranosidase<br>(invertase or saccharase)<br>(EC No. 3.2.1.26) | <i>Saccharomyces cerevisiae</i>                                                                                                                                                                                                                                       | GMP |
|     |                                                                            | <i>Kluyveromyces fragilis</i>                                                                                                                                                                                                                                         |     |
|     |                                                                            | <i>Saccharomyces carlsbergensis</i>                                                                                                                                                                                                                                   |     |
|     |                                                                            | <i>Saccharomyces cerevisiae</i>                                                                                                                                                                                                                                       |     |
| 28. | Trehalase<br>(EC No. 3.2.1.28)                                             | <i>Trichoderma reesei</i>                                                                                                                                                                                                                                             | GMP |
| 29. | Endo-1,3-β-xylanase<br>(EC No. 3.2.1.32)                                   | <i>Humicola insolens</i>                                                                                                                                                                                                                                              | GMP |
| 30. | Pullulanase<br>(EC 3.2.1.41)                                               | <i>Bacillus acidopullulyticus</i>                                                                                                                                                                                                                                     | GMP |
|     |                                                                            | <i>Bacillus brevis</i>                                                                                                                                                                                                                                                |     |
|     |                                                                            | <i>Bacillus circulans</i>                                                                                                                                                                                                                                             |     |
|     |                                                                            | <i>Bacillus naganoensis</i>                                                                                                                                                                                                                                           |     |
|     |                                                                            | <i>Klebsiella aerogenes</i>                                                                                                                                                                                                                                           |     |
| 31. | Alpha<br>Arabinofuranosidase<br>(EC No. 3.2.1.55)                          | <i>Aspergillus niger</i>                                                                                                                                                                                                                                              | GMP |
| 32. | Glucan 1,3-<br>β-glucosidase<br>(EC No. 3.2.1.58)                          | <i>Trichoderma harzianum</i>                                                                                                                                                                                                                                          | GMP |
| 33. | Mannanase (Mannan<br>endo-1,4-beta-<br>mannosidase)<br>(EC No. 3.2.1.78)   | <i>Trichoderma reesei</i>                                                                                                                                                                                                                                             | GMP |
|     |                                                                            | <i>Aspergillus niger</i>                                                                                                                                                                                                                                              | GMP |
| 34. | Protease (Bacteria)<br>(EC No. 3.4)                                        | <i>Bacillus amyloliquefaciens</i>                                                                                                                                                                                                                                     | GMP |
|     |                                                                            | <i>Bacillus licheniformis</i>                                                                                                                                                                                                                                         |     |
|     |                                                                            | <i>Bacillus subtilis</i>                                                                                                                                                                                                                                              |     |
|     |                                                                            | <i>Geobacillus caldoproteolyticus</i>                                                                                                                                                                                                                                 |     |
| 35. | Protease (Fungi)<br>(EC No. 3.4)                                           | <i>Aspergillus niger</i>                                                                                                                                                                                                                                              | GMP |
|     |                                                                            | <i>Aspergillus oryzae</i>                                                                                                                                                                                                                                             |     |

|                     |                                                                            |                                                                                                                                                                                                                                              |      |
|---------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|                     |                                                                            | <div> <p>Insertion of provision<br/> <sup>84</sup>[<i>Rhizomucor miehei</i>]<br/> [This amendment shall come into force on 1<sup>st</sup> February, 2026]</p> </div>                                                                         |      |
|                     |                                                                            | <div> <p>Insertion of provision<br/> <sup>84</sup>[<i>Cryphonectria Parasitica</i>]<br/> [This amendment shall come into force on 1<sup>st</sup> February, 2026]</p> </div>                                                                  |      |
| 36.                 | Aminopeptidase<br>(EC No. 3.4.11.1)                                        | <i>Aspergillusoryzae</i>                                                                                                                                                                                                                     | GMP  |
| 37.                 | Serine protease<br>(subtilisin)<br>(EC No. 3.4.21.62)                      | <i>Bacillus licheniformis</i>                                                                                                                                                                                                                | GMP  |
| <sup>81</sup> [37a] | Oryzin<br>(EC No. 3.4.21.63)                                               | <i>Aspergillus melleus</i>                                                                                                                                                                                                                   | GMP] |
| 38.                 | PIII-type proteinase<br>(Lactocepin)<br>(EC No. 3.4.21.96)                 | <i>Lactococcuslactis subsp. cremoris</i><br>(strain SK11)                                                                                                                                                                                    | GMP  |
| 39.                 | Papain<br>(EC No 3.4.22.2)                                                 | <i>Carica papaya</i>                                                                                                                                                                                                                         | GMP  |
| 40.                 | Ficin<br>(EC No. 3.4.22.3)                                                 | Figs                                                                                                                                                                                                                                         | GMP  |
| 41.                 | Bromelain<br>(EC No 3.4.22.33)                                             | <i>Ananascomosus/bracteatus</i>                                                                                                                                                                                                              | GMP  |
| 42.                 | Chymosin<br>(EC No. 3.4.23.4)                                              | <div> <p><i>Kluyveromyces lactis</i></p> </div> <div> <p>Insertion of provision<br/> <sup>84</sup>[<i>Aspergillus niger</i> (variety-<br/> Awamori)]<br/> [This amendment shall come into force on 1<sup>st</sup> February, 2026]</p> </div> | GMP  |
| <sup>81</sup> [42a] | Aspergillopepsin I<br>(EC No. 3.4.23.18)                                   | <i>Aspergillus niger</i>                                                                                                                                                                                                                     | GMP  |
|                     |                                                                            | <i>Aspergillus oryzae</i>                                                                                                                                                                                                                    | GMP  |
| 42b                 | Aspergillopepsin II<br>(EC No. 3.4.23.19)                                  | <i>Aspergillus niger</i>                                                                                                                                                                                                                     | GMP] |
| 43.                 | Endo(thia)peptidase<br>(EC No. 3.4.23.22)                                  | <i>Cryphonectria (Endothia) parasitica</i>                                                                                                                                                                                                   | GMP  |
| 44.                 | Mucorpepsin <sup>81</sup> [(Aspartic<br>proteinase)]<br>(EC No. 3.4.23.23) | <i>Rhizomucormiehei</i>                                                                                                                                                                                                                      | GMP  |

|                     |                                                                                                   |                                          |      |
|---------------------|---------------------------------------------------------------------------------------------------|------------------------------------------|------|
| <sup>81</sup> [44a] | Thermolysin<br>(EC No. 3.4.24.27)                                                                 | <i>Bacillus stearothermophilus</i>       | GMP  |
|                     |                                                                                                   | <i>Geobacillus caldoproteolyticus</i>    | GMP] |
| 45.                 | Metalloproteinase<br>(Bacillolysin)<br><sup>81</sup> [Metalloendopeptidase]<br>(EC No. 3.4.24.28) | <i>Bacillus amyloliquefaciens</i>        | GMP  |
|                     |                                                                                                   | <sup>81</sup> [ <i>Bacillus subtilis</i> | GMP] |
| <sup>81</sup> [45a] | Glutaminase<br>(EC No. 3.5.1.2)                                                                   | <i>Bacillus amyloliquefaciens</i>        | GMP  |
| 45b                 | Protein glutaminase<br>(EC No. 3.5.1.44)                                                          | <i>Chryseobacterium proteolyticum</i>    | GMP] |
| 46.                 | AMP deaminase<br>(EC No. 3.5.4.6)                                                                 | <i>Aspergillusmelleus</i>                | GMP  |
|                     |                                                                                                   | <i>Streptomyces murinus</i>              |      |
| 47.                 | Pectin lyase<br>(EC No. 4.2.2.10)                                                                 | <i>Aspergillusniger</i>                  | GMP  |
| 48.                 | Glucose isomerase<br>(or xylose isomerase)<br>(EC No. 5.3.1.5)                                    | <i>Streptomyces rubiginosus</i>          | GMP  |
|                     |                                                                                                   | <i>Streptomyces murinus</i>              | GMP  |
|                     |                                                                                                   | <i>Streptomyces olivaceus</i>            |      |
|                     |                                                                                                   | <i>Streptomyces olivochromogenes</i>     |      |
|                     |                                                                                                   | <i>Microbacteriumarborescens</i>         |      |
|                     |                                                                                                   | <i>Actinoplanesmissouriensis</i>         |      |

*\*All enzymes are from non-genetically modified sources]*

<sup>80</sup>[TABLE 11 A: Enzymes derived from Genetically Modified Microorganisms (GMM)

| S.No . | Enzyme Name                                    | Production Organism | Donor Organism or Source | Functional and technological purpose                          | Indicative food uses                                                    | Residual level (mg/kg) (Not more than) |
|--------|------------------------------------------------|---------------------|--------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------|
| 1.     | <b>Glucose oxidase</b><br><br>(EC No. 1.1.3.4) | Aspergillus oryzae  | Aspergillus niger        | Dough stabilizer                                              | Baking and other cereal-based processes (bread, pasta, noodles, snacks) | GMP                                    |
|        |                                                | Aspergillus niger   | Penicillium chrysogenum  | Dough stabilizer, food preservative, color stabilizer and for | Bakery products and other cereal based products (e.g.                   | GMP                                    |

|    |                                               |                      |                   |                                                                                                |                                                                                                                                                                       |     |
|----|-----------------------------------------------|----------------------|-------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|    |                                               |                      |                   | reduced alcohol wine production                                                                | pasta, noodles, snacks), Egg processing, fruit and vegetable processing, Production of beer and other cereal based beverages                                          |     |
|    |                                               | Aspergillus niger    | Aspergillus niger | For conversion of glucose to gluconic acid in presence of dissolved oxygen                     | In food processing to remove glucose and oxygen and in bakery application                                                                                             | GMP |
| 2. | <b>Hexose oxidase</b><br><br>(EC No. 1.1.3.5) | Hansenula polymorpha | Chondrus crispus  | To catalyze the oxidation of C6 sugars into their corresponding lactones and hydrogen peroxide | In food processing of wide range of products for dough-strengthening , oxygen scavenging, curd formation and to reduce the occurrence of excessive maillard reactions | GMP |
| 3. | <b>Catalase</b><br><br>(EC No. 1.11.1.6)      | Aspergillus niger    | Aspergillus niger | Catalyzes the decomposition of hydrogen peroxide to water and oxygen                           | In food processing for enzymatic production of gluconic acid, removal of hydrogen peroxide or generation of oxygen in foods and beverages                             | GMP |

|    |                                                                              |                            |                        |                                                                                                                                 |                                                                          |     |
|----|------------------------------------------------------------------------------|----------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----|
|    |                                                                              | Trichoderma reesei         | Aspergillus niger      | Catalyzes the decomposition of hydrogen peroxide to water and oxygen                                                            | For egg processing                                                       | GMP |
| 4. | <b>Peroxidase</b><br><br>(EC No. 1.11.1.7)                                   | Aspergillus niger          | Marasmius scorodionius | Preservation of raw milk, yoghurt and cheese                                                                                    | Dairy processing (whey processing) and Production of bakery products     | GMP |
| 5. | <b>Phosphatidylcholine-sterol O-acyltransferase</b><br><br>(EC No. 2.3.1.43) | Bacillus licheniformis     | Aeromonas salmonicida  | Modification of phospholipids to lyso-phospholipids and cholesterol ester                                                       | Baking, dairy, egg processing, fats and oils Processing, meat processing | GMP |
| 6. | <b>1,4-alpha-glucan branching</b><br><br>(EC No. 2.4.1.18)                   | Bacillus subtilis          | Rhodothermus obamensis | Converts amylose into amylopectin                                                                                               | Starch processing                                                        |     |
| 7. | <b>4-α-glucanotransferase (amylomaltase)</b><br><br>(EC No. 2.4.1.25)        | Bacillus amyloliquefaciens | Thermus thermophilus   | Modification of the structural properties of starch to mimic fat.                                                               | Starch processing                                                        | GMP |
| 8. | <b>Triacylglycerol Lipase</b><br><br>(EC No. 3.1.1.3)                        | Aspergillus niger          | Fusarium culmorum      | Improvement of texture of fat in bakery products, flavour modification, interesterification of fats, degumming of oils and fats | Production of bakery products dairy processing oils and fats processing  | GMP |
|    |                                                                              | Kluyveromyces fragilis     | Calf, goat, lamb       | Improvement of texture of n                                                                                                     | Production of bakery                                                     | GMP |

|  |  |                      |                                            |                                                                                                                                                                         |                                                                                                                                                           |     |
|--|--|----------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|  |  |                      |                                            | bakery products, flavour modification, interesterification of fats, degumming of oils and fats                                                                          | products dairy processing oils and fats processing                                                                                                        |     |
|  |  | Hansenula polymorpha | Fusarium heterosporum                      | Improvement of texture of bakery products, modifying egg yolk for use in cake preparation and degumming of oils and fats                                                | Production of Bakery products, egg processing, fats and oils processing                                                                                   | GMP |
|  |  | Aspergillus niger    | Candida antarctica                         | Degumming of oils and fats                                                                                                                                              | Oils and Fats processing                                                                                                                                  | GMP |
|  |  | Aspergillus oryzae   | Humicola lanuginosa and Fusarium oxysporum | Improvement of texture of bakery products, flavour modification, modifying egg yolk for use in cake preparation interesterification of fats, degumming of oils and fats | Bakery and other cereal-based products (bread, pasta, noodles, snacks), brewing and other cereal-based beverages, egg processing oils and fats processing | GMP |
|  |  | Aspergillus oryzae   | Fusarium oxysporum                         | Improvement of texture of bakery products, flavour modification, modifying egg yolk for use in cake preparation interesterification of fats,                            | Bakery and other cereal-based products (bread, pasta, noodles, snacks)<br><br>Egg processing, brewing and other cereal-                                   | GMP |

|     |                                                         |                    |                         |                                                                                                                                                                                                              |                                                                                                                                                          |     |
|-----|---------------------------------------------------------|--------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|     |                                                         |                    |                         | degumming of oils and fats                                                                                                                                                                                   | based beverages                                                                                                                                          |     |
|     |                                                         | Aspergillus oryzae | Thermomyces lanuginosus | Improvement of texture of bakery products, flavour modification, modifying egg yolk for use in cake preparation, interesterification of fats, degumming of oils and fats                                     | Bakery and other cereal-based products (bread, pasta, noodles, snacks), brewing and other cereal-based beverages egg processing oils and fats processing | GMP |
|     |                                                         | Aspergillus oryzae | Rhizomucor miehei       | Intesterification of fats, degumming of oils and fats                                                                                                                                                        | oils and fats processing                                                                                                                                 | GMP |
|     |                                                         | Trichoderma reesei | Aspergillus niger       | As a processing aid in food manufacturing to catalyze the hydrolysis of ester bonds in triglycerides primarily in 1 and 3 positions of fatty acids in triglycerides with release of fatty acids and glycerol | For use in baking and brewing process, in the manufacture of cereal beverage, in pasta production, and in potable alcohol production                     | GMP |
| 9.  | <b>Phospholipase A2</b><br><br><b>(EC No. 3.1.1.4)</b>  | Aspergillus niger  | Porcine pancreas        | Oil degumming                                                                                                                                                                                                | Production of bakery products, egg processing, oils and fats processing                                                                                  | GMP |
| 10. | <b>Lysophospholipase</b><br><br><b>(EC No. 3.1.1.5)</b> | Aspergillus niger  | Aspergillus niger       | Dough stabilizer, Improvement of texture of bakery products,                                                                                                                                                 | Bakery and other cereal-based products (bread, pasta, noodles,                                                                                           | GMP |

|     |                                                  |                    |                                                          |                                                                                                                                                                |                                                                                           |     |
|-----|--------------------------------------------------|--------------------|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----|
|     |                                                  |                    |                                                          | enhance filtration rate of syrups, De-gumming of oils and fats                                                                                                 | snacks) starch based products oils and fats processing                                    |     |
| 11. | <b>Pectin esterase</b><br><br>(EC No. 3.1.1.11)  | Aspergillus niger  | Aspergillus niger                                        | Juice extraction, concentration and clarification of fruit juices, gelation of fruit, and to modify texture and rheology of fruit and vegetable-based products | Fruit and vegetable products, flavouring production                                       | GMP |
|     |                                                  | Aspergillus oryzae | Aspergillus aculeatus                                    | Juice extraction, concentration and clarification of fruit juices, gelation of fruit, and to modify texture and rheology of fruit and vegetable-based products | Fruit and vegetable products                                                              | GMP |
| 12. | <b>Phospholipase A1</b><br><br>(EC No. 3.1.1.32) | Aspergillus oryzae | Fusarium venenatum                                       | To modify the functionality of dairy products and its ingredients                                                                                              | Milk and dairy based products                                                             | GMP |
|     |                                                  | Aspergillus niger  | Aspergillus niger                                        | De-gumming of oils and fats                                                                                                                                    | Oils and fats processing                                                                  | GMP |
|     |                                                  | Aspergillus niger  | Talaromyces leycettanus                                  | De-gumming of oils and fats                                                                                                                                    | Oils and Fats processing                                                                  | GMP |
| 13. | <b>3-phytase</b><br><br>(EC No. 3.1.3.8)         | Aspergillus niger  | Aspergillus niger (A. niger also include A. tubingensis) | Phytate reduction in cereals and legumes                                                                                                                       | Bakery products and other cereal and legume based products (e.g. pasta, noodles, snacks), | GMP |

|     |                                                         |                                                       |                                |                                                                                                                                             |                                                                                                                                                   |      |
|-----|---------------------------------------------------------|-------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------|
|     |                                                         |                                                       |                                |                                                                                                                                             | soy sauce                                                                                                                                         |      |
| 14. | <b>Phytase</b><br>(EC No. 3.1.3.26)                     | Trichoderma reesei                                    | Buttiauxella sp.               | Hydrolysis of phytic acid                                                                                                                   | In potable alcohol production and in animal feed                                                                                                  | GMP  |
| 15. | <b>Phospholipase C</b><br>(EC No. 3.1.4.3)              | Pichia pastoris (now renamed as Komagataella affinis) | Soil                           | De-gumming of oils and fats                                                                                                                 | Oils and fats processing                                                                                                                          | GMP  |
|     |                                                         | Bacillus licheniformis                                | Bacillus thuringiensis         | De-gumming of oils and fats                                                                                                                 | Oils and fats processing                                                                                                                          | GMP. |
| 16. | <b>Phosphonate phospholipase C</b><br>(EC No. 3.1.4.11) | Pseudomonas fluorescens                               | Soil                           | De-gumming of oils and fats                                                                                                                 | Oils and fats processing                                                                                                                          | GMP  |
|     |                                                         | Bacillus licheniformis                                | Pseudomonas sp-62186           | De-gumming of oils and fats                                                                                                                 | Oils and Fats processing                                                                                                                          | GMP  |
| 17. | <b>Alpha – amylase</b><br>(EC No. 3.2.1.1)              | Bacillus subtilis                                     | Alicyclobacillus pohliae       | Antistaling agent in combination with lipase                                                                                                | Bakery products                                                                                                                                   | GMP  |
|     |                                                         | Bacillus licheniformis                                | Bacillus licheniformis         | Liquefaction and thinning of starch, fermentation, Starch processing into dextrins and of oligosaccharides. High DE-maltodextrin production | Brewing, Potable alcohol production, Grain or Carbohydrate, non-alcoholic Beverages, and bakery products, processing of starch for other purposes | GMP  |
|     |                                                         | Bacillus licheniformis                                | Geobacillus stearothermophilus | Liquefaction and thinning of starch, fermentation, starch processing into dextrins and oligosaccharides                                     | Processing of starch for baking, brewing and fermentation                                                                                         | GMP  |

|  |  |                            |                            |                                                                                          |                                                                                                                  |     |
|--|--|----------------------------|----------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----|
|  |  |                            |                            | es and high DE-maltodextrin.                                                             |                                                                                                                  |     |
|  |  | Bacillus licheniformis     | Cytophaga sp.              | Liquefaction and thinning of starch, fermentation                                        | Processing of starch for baking and brewing processes                                                            | GMP |
|  |  | Pseudomonas fluorescens    | Thermococcales             | Starch processing into dextrins and oligosaccharides and high DE-maltodextrin            | Processing of starch for baking, brewing and fermentation                                                        | GMP |
|  |  | Aspergillus niger          | Rhizomucor pusillus        | Starch processing into dextrins and oligosaccharides and high DE-maltodextrin            | Processing of starch for baking, brewing and fermentation and other processes                                    | GMP |
|  |  | Trichoderma reesei         | Aspergillus clavatus       | Starch processing into dextrins and of oligosaccharides. High DE-maltodextrin production | In Carbohydrate or starch processing, brewing and potable alcohol production                                     | GMP |
|  |  | Trichoderma reesei         | Aspergillus kawachii       | Starch processing into dextrins and of oligosaccharides. High DE-maltodextrin production | In Carbohydrate or starch processing, brewing and potable alcohol production                                     | GMP |
|  |  | Bacillus amyloliquefaciens | Bacillus amyloliquefaciens | As processing aid in food manufacturing to hydrolyze polysaccharides                     | Carbohydrate or grain processing, potable alcohol production, brewing, cereal processes, non-alcoholic beverages | GMP |

|     |                                                                                                                |                        |                      |                                                                                                                                                                        |                                                                                                       |     |
|-----|----------------------------------------------------------------------------------------------------------------|------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----|
|     |                                                                                                                | Trichoderma reesei     | Aspergillus terreus  | Starch processing into dextrins and of oligosaccharides. High DE-maltodextrin production                                                                               | Brewing, Potable alcohol production, grain or carbohydrate, non-alcoholic beverages, cereal processes | GMP |
| 18. | <b>Beta-amylase</b><br><br>(EC No. 3.2.1.2)                                                                    | Bacillus licheniformis | Bacillus flexus      | Starch processing into maltose                                                                                                                                         | Starch processing for maltose-based syrups                                                            | GMP |
| 19. | <b>Glucoamylase (Glucan 1,4-alpha-glucosidase or Acid maltase or Amyloglucosidase)</b><br><br>(EC No. 3.2.1.3) | Trichoderma reesei     | Trichoderma reesei   | Processing of polysaccharides and oligosaccharides for improved fermentation and liquefaction                                                                          | Brewing, fermentation and starch liquifaction and saccharification                                    | GMP |
|     |                                                                                                                | Aspergillus niger      | Gloeophyllum trabeum | Processing of polysaccharides and oligosaccharides for improved brewing fermentation, clarification and starch liquefaction , starch liquefaction and Saccharification | Brewing, fermentation and starch liquifaction and saccharification                                    | GMP |
|     |                                                                                                                | Aspergillus niger      | Aspergillus niger    | Processing of polysaccharides and oligosaccharides for improved brewing fermentation, clarification                                                                    | Brewing, fermentation and starch liquifaction and saccharification                                    | GMP |

|  |  |                       |                          |                                                                                                                                                                                            |                                                                                                   |     |
|--|--|-----------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----|
|  |  |                       |                          | and starch<br>liquefaction                                                                                                                                                                 |                                                                                                   |     |
|  |  | Aspergillus<br>niger  | Talaromyces<br>emersonii | Processing of<br>polysaccharide<br>s and<br>oligosaccharid<br>es for<br>improved<br>brewing<br>fermentation,<br>clarification<br>and starch<br>liquefaction                                | Brewing,<br>fermentation<br>and starch<br>liquefaction<br>and<br>saccharificati<br>on processes   | GMP |
|  |  | Aspergillus<br>niger  | Trametes<br>cingulata    | Processing of<br>polysaccharide<br>s and<br>oligosaccharid<br>es for<br>improved<br>brewing<br>fermentation,<br>clarification<br>and starch<br>liquefaction<br>and<br>Saccharificatio<br>n | Brewing,<br>fermentation<br>and starch<br>liquefaction<br>and<br>saccharificati<br>on processes   | GMP |
|  |  | Aspergillus<br>niger  | Penicillium<br>oxalicum  | Processing of<br>polysaccharide<br>s and<br>oligosaccharid<br>es for<br>improved<br>brewing<br>fermentation,<br>clarification<br>and starch<br>liquefactionan<br>dSaccharificati<br>on     | Brewing,<br>fermentation<br>and starch<br>liquifaction<br>and<br>saccharifactio<br>n              | GMP |
|  |  | Trichoderma<br>reesei | Aspergillus<br>fumigatus | Processing of<br>polysaccharide<br>s and<br>oligosaccharid<br>es for<br>improved<br>fermentation<br>and<br>liquefaction                                                                    | For<br>carbohydrate<br>or grain<br>processing,<br>brewing and<br>potable<br>alcohol<br>production | GMP |

|     |                                                                                                       |                    |                          |                                                                                               |                                                                                                                                                                                                       |     |
|-----|-------------------------------------------------------------------------------------------------------|--------------------|--------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|     |                                                                                                       | Trichoderma reesei | Fusarium verticillioides | Processing of polysaccharides and oligosaccharides for improved fermentation and liquefaction | For carbohydrate or grain processing, brewing and potable alcohol production                                                                                                                          | GMP |
| 20. | <b>Cellulase</b><br><b>(EC No. 3.2.1.4)</b>                                                           | Trichoderma reesei | Aspergillus fumigatus    | Hydrolysis of amorphous cellulose                                                             | Brewing                                                                                                                                                                                               | GMP |
|     |                                                                                                       | Trichoderma reesei | Penicillium emersonii    | Hydrolysis of amorphous cellulose. Saccharification                                           | Brewing                                                                                                                                                                                               | GMP |
|     |                                                                                                       | Trichoderma reesei | Trichoderma reesei       | As processing aid in food manufacturing or breakdown of cellulose                             | For carbohydrate processing, potable alcohol production, maceration in fruit and vegetable processing, brewing and wine production and in food processing of other wide range of products like coffee | GMP |
| 21. | <b>Beta-glucanase (endo-beta glucanase or endo-1,3-beta glucanase)</b><br><br><b>(EC No. 3.2.1.6)</b> | Bacillus subtilis  | Bacillus subtilis        | Hydrolysis of beta-glucans, to improve the brewing properties of beer                         | Brewing processes                                                                                                                                                                                     | GMP |

|     |                                                                        |                    |                         |                                                                                                                                                                                                                  |                                                                                                                             |     |
|-----|------------------------------------------------------------------------|--------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----|
| 22. | <b>Xylanase<br/>(Endo-1,4-beta-xylanase)<br/><br/>(EC No. 3.2.1.8)</b> | Aspergillus niger  | Aspergillus niger       | Hydrolysis of plant carbohydrates to improve quality of bakery products (firmness, stiffness, consistency and others)                                                                                            | Bakery and other cereal based products                                                                                      | GMP |
|     |                                                                        | Aspergillus oryzae | Humicola lanuginosus    | Dough stabilizer, enhancing loaf volume, enhance crumb structure and bloom                                                                                                                                       | Bakery products                                                                                                             | GMP |
|     |                                                                        | Bacillus subtilis  | Bacillus subtilis       | Dough stabilizer, enhancing loaf volume, enhance crumb structure bloom and loaf softening, hydrolysis of plant carbohydrates to improve quality of bakery products (firmness, stiffness, consistency and others) | Bakery products, carbohydrate or starch processing, Brewing, Potable alcohol production, non-alcoholic beverages processing | GMP |
|     |                                                                        | Trichoderma reesei | Talaromyces leycettanus | To improve filtration in brewing, Starch liquefaction and enhance oil extraction from grain                                                                                                                      | Baking and Brewing and oil extraction -                                                                                     | GMP |
|     |                                                                        | Aspergillus niger  | Rasamsonia emersonii    | Dough stabilizer, enhancing loaf volume,                                                                                                                                                                         | Bakery products production of beer and                                                                                      | GMP |

|  |  |                        |                          |                                                                                                                                           |                                                                                  |     |
|--|--|------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----|
|  |  |                        |                          | crumb structure, bloom and loaf softening, improving filtration in brewing, starch liquefaction                                           | other cereal based beverages                                                     |     |
|  |  | Trichoderma reesei     | Aspergillus niger        | Dough stabilizer, enhancing loaf volume, crumb structure, bloom and loaf softening, to improve filtration in brewing, starch liquefaction | Brewing and baking products, potable alcohol production, non-alcoholic beverages | GMP |
|  |  | Aspergillus oryzae     | Aspergillus aculeatus    | Dough stabilizer, enhance loaf volume, crumb structure, bloom and loaf softening, to improve filtration in brewing, starch liquefaction   | Baking, brewing and other cereal-based beverages and starch processing           | GMP |
|  |  | Bacillus licheniformis | Bacillus licheniformis   | Dough stabilizer, enhancer of loaf volume, enhance crumb structure, bloom and loaf softening, starch liquefaction                         | Baking and brewing processes, grain treatment                                    | GMP |
|  |  | Trichoderma reesei     | Fusarium verticillioides | Hydrolysis of plant carbohydrates to improve quality of bakery products                                                                   | As processing aid in carbohydrate or starch processing and potable               | GMP |

|     |                                                                          |                        |                                             |                                                                                                                                  |                                                                  |     |
|-----|--------------------------------------------------------------------------|------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-----|
|     |                                                                          |                        |                                             | (firmness, stiffness, consistency and others)                                                                                    | alcohol production                                               |     |
| 23. | <b>Endo-Polygalacturonase (Pectinase)</b><br><br><b>(EC No 3.2.1.15)</b> | Aspergillus niger      | Aspergillus niger                           | Extraction and clarification of juice from fruits and vegetables, extraction of flavors                                          | Fruit and vegetable processing, flavouring production            | GMP |
| 24. | <b>Alpha-glucosidase</b><br><br><b>(EC No 3.2.1.20)</b>                  | Trichoderma reesei     | Aspergillus niger                           | Aids in fermentation, hydrolysis of terminal, non-reducing (1~4)-linked alpha-D-glucose residues with release of alpha-D-glucose | Brewing and starch processing                                    | GMP |
| 25. | <b>Lactase (Beta-galactosidase)</b><br><br><b>(EC No 3.2.1.23)</b>       | Kluyveromyces lactis   | Kluyveromyces lactis                        | Hydrolysis of lactose content of in whey or milk                                                                                 | Dairy products and processing                                    | GMP |
|     |                                                                          | Bacillus subtilis      | Bifidobacterium bifidum                     | Hydrolysis of lactose content of whey or milk                                                                                    | Dairy products and , production of GOS (galacto-oligosaccharide) | GMP |
|     |                                                                          | Aspergillus niger      | Aspergillus oryzae                          | Hydrolysis of lactose content of whey or milk                                                                                    | Dairy products and processing                                    | GMP |
|     |                                                                          | Bacillus licheniformis | Bifidobacterium bifidum                     | Hydrolysis of lactose content of whey or milk                                                                                    | Dairy products and processing                                    | GMP |
|     |                                                                          | Bacillus subtilis      | Lactobacillus delbrueckii subsp. bulgaricus | Hydrolysis of lactose content of in whey or milk                                                                                 | In dairy processing, GOS (galacto-oligosacchari                  | GMP |

|     |                                                                            |                           |                               |                                                                                                                                                |                                                                                                                                      |     |
|-----|----------------------------------------------------------------------------|---------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-----|
|     |                                                                            |                           |                               |                                                                                                                                                | de)<br>production<br>and<br>production of<br>low lactose<br>products                                                                 |     |
|     |                                                                            | Aspergillus<br>oryzae     | Aspergillus<br>oryzae         | Hydrolysis of<br>lactose content<br>of in whey or<br>milk                                                                                      | In dairy<br>processing,<br>GOS<br>(galacto-<br>oligosacchari<br>de)<br>production<br>and<br>production of<br>low lactose<br>products | GMP |
| 26. | <b>Trehalase</b><br><br>(EC No<br>3.2.1.28)                                | Trichoderma<br>reesei     | Trichoderma<br>reesei         | Starch<br>processing for<br>fermentation                                                                                                       | Brewing<br>process                                                                                                                   | GMP |
|     |                                                                            | Aspergillus<br>niger      | Myceliophthorase<br>pedonium  | Starch<br>processing for<br>fermentation                                                                                                       | Brewing<br>process                                                                                                                   | GMP |
| 27. | <b>Pullulanase</b><br><br>(EC No<br>3.2.1.41)                              | Bacillus<br>licheniformis | Bacillus<br>deramificans      | Hydrolysis of<br>pullulan in<br>starch<br>processing,<br>as processing<br>aid in efficient<br>starch<br>hydrolysis and<br>saccharificatio<br>n | Brewing<br>processes and<br>production of<br>sweeteners,<br>manufacture<br>of starch or<br>carbohydrate<br>processing                | GMP |
|     |                                                                            | Bacillus subtilis         | Bacillus<br>acidopullulyticus | Hydrolysis of<br>pullulan in<br>starch<br>processing                                                                                           | Brewing<br>processes and<br>manufacture<br>of sweeteners                                                                             | GMP |
|     |                                                                            | Bacillus subtilis         | Bacillus<br>deramificans      | Hydrolysis of<br>pullulan in<br>grain<br>processing                                                                                            | Brewing and<br>starch<br>processing                                                                                                  | GMP |
| 28. | <b>Alpha<br/>arabinofu<br/>ranosidas<br/>e</b><br><br>(EC No.<br>3.2.1.55) | Trichoderma<br>reesei     | Talaromyces<br>pinophilus     | Separation of<br>soluble and<br>starch or<br>gluten<br>fractions                                                                               | Potable<br>alcohol<br>production                                                                                                     | GMP |

|     |                                                                                                 |                        |                                      |                                                                                                                                                                  |                                                                             |      |
|-----|-------------------------------------------------------------------------------------------------|------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|------|
| 29. | <b>Maltotetraohydrolase or glucan 1,4-alpha-maltotetraohydrolase</b><br><br>(EC No. 3.2.1.60)   | Bacillus licheniformis | Pseudomonas stutzeri (saccharophila) | Dough stabilizer, anti-staling agent in baking, antiretrogradation agent to enhance the quality attributes of bakery products                                    | Baking, carbohydrate or grain processing                                    | GMP  |
| 30. | <b>Mannan endo-1,4-beta-mannosidase (<math>\beta</math>-mannanase)</b><br><br>(EC No. 3.2.1.78) | Aspergillus niger      | Talaromyces leycettanus              | Hydrolysis of mannan to inhibit gel formation during freeze-drying of the instant coffee                                                                         | Coffee processing                                                           | GMP. |
| 31. | <b>Glucan 1,4-alpha-maltohydrolase (Maltogenic alpha-amylase)</b><br><br>(EC No 3.2.1.133)      | Bacillus subtilis      | Geobacillus stearothermophilus       | Anti-staling agent to prevent retrogradation of starch in baking, industry. Production of tailor-made sweetener syrups with low viscosity, high maltose contents | Bakery products and sweetener syrups                                        | GMP  |
|     |                                                                                                 | Bacillus licheniformis | Geobacillus stearothermophilus       | Anti-staling agent to prevent retrogradation of starch in baking, industry. Production of tailor-made sweetener syrups with low viscosity,                       | As processing aid in bakery, starch processing, brewing and potable alcohol | GMP  |

|     |                                                                                       |                        |                            |                                                                                                                                                              |                                                                   |      |
|-----|---------------------------------------------------------------------------------------|------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------|
|     |                                                                                       |                        |                            | high maltose contents                                                                                                                                        |                                                                   |      |
| 32. | <b>Carboxypeptidase</b><br><br>(EC No. 3.4.16.5)                                      | Aspergillus niger      | Aspergillus niger          | Used to accelerate the development of flavors and the de-bittering during the ripening process of cheese. debittering agent in cheese manufacture.           | Cheese, enzyme modified cheese, cheese powders and fermented meat | GMP  |
| 33. | <b>Chymotrypsin</b><br><br>(EC No. 3.4.21.1)                                          | Bacillus licheniformis | Nocardio psisprasina       | Increased digestibility of protein and reduce allergenicity                                                                                                  | Protein hydrolysis, yeast processing                              | GMP. |
| 34. | <b>Serine protease with trypsin specificity Or (Trypsin)</b><br><br>(EC No. 3.4.21.4) | Fusarium venenatum     | Fusarium oxysporum         | Increased digestibility of protein and reduce allergenicity                                                                                                  | Dairy processing protein hydrolysis                               | GMP  |
| 35. | <b>Acid prolylendopeptidase</b><br><br>(EC No. 3.4.21.26)                             | Aspergillus niger      | Aspergillus niger          | Degradation of cereal storage proteins to smaller peptides for optimal fermentation beer stability, prevention of chill haze without loss of foam properties | Beer and other cereal based beverages                             | GMP  |
| 36. | <b>Serine protease (Subtilisin)</b>                                                   | Bacillus subtilis      | Bacillus amyloliquefaciens | Facilitates protein hydrolysis during processing                                                                                                             | Protein processing                                                | GMP  |

|     |                                                                             |                        |                     |                                                                                                                        |                                                                                                                                                                                    |      |
|-----|-----------------------------------------------------------------------------|------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|     | <b>(EC No. 3.4.21.62)</b>                                                   | Bacillus licheniformis | Pyrococcus furiosus | Hydrolysis of proteins                                                                                                 | Protein hydrolysis and protein hydrolysates                                                                                                                                        | GMP  |
|     |                                                                             | Bacillus subtilis      | Bacillus lentus     | To catalyze protein hydrolysis                                                                                         | As processing aid in plant protein processing, fish and seafood protein processing, yeast processing, animal protein processing, xanthan gum processing, and microalgae processing | GMP. |
| 37. | <b>Chymosin</b><br><b>(EC No. 3.4.23.4)</b>                                 | Trichoderma reesei     | Bos taurus (bovine) | Milk Coagulant, processing aid in cheese manufacturing. Chymosin helps in coagulating milk by hydrolyzing milk protein | Milk or dairy processing, production of cheese, whey and lactose                                                                                                                   | GMP  |
|     |                                                                             | Kluyveromyces lactis   | Bovine pro-chymosin | Milk Coagulant                                                                                                         | Milk processing                                                                                                                                                                    | GMP  |
| 38. | <b>Aspergillo pepsin I, aspartic protease)</b><br><b>(EC No. 3.4.23.18)</b> | Trichoderma reesei     | Trichoderma reesei  | Catalyses hydrolysis of proteins with broad specificity                                                                | Processing of proteins, clarification of fruit and vegetable juices and alcoholic drinks, modification of wheat gluten in bakery products                                          | GMP  |

|     |                                                                               |                            |                            |                                                  |                                                                                                                                                                                                                                                                                              |     |
|-----|-------------------------------------------------------------------------------|----------------------------|----------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 39. | <b>Mucorpepsin (Mucor rennin)</b><br><br>(EC No. 3.4.23.23)                   | Aspergillus oryzae         | Rhizomucor miehei          | Milk coagulation in cheese making.               | Dairy processing                                                                                                                                                                                                                                                                             | GMP |
| 40. | <b>Bacillolysin (Bacillus metalloendopeptidase)</b><br><br>(EC No. 3.4.24.28) | Bacillus amyloliquefaciens | Bacillus amyloliquefaciens | Protein processing into peptides and hydrolysate | Production of bakery products and other cereal based products (e.g. pasta, noodles, snacks), production of beer and other cereal based beverages, dairy processing, flavouring production, production of cereal based distilled alcoholic beverages, protein processing and yeast processing | GMP |
|     |                                                                               | Bacillus subtilis          | Bacillus amyloliquefaciens | Protein processing into peptides and hydrolysate | Production of bakery products and other cereal based products (e.g. pasta, noodles, snacks), production of beer and other cereal based beverages,                                                                                                                                            | GMP |

|     |                                                   |                    |                     |                          |                                                                                                                                            |     |
|-----|---------------------------------------------------|--------------------|---------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----|
|     |                                                   |                    |                     |                          | dairy processing, flavouring production, production of cereal based distilled alcoholic beverages, protein processing and yeast processing |     |
| 41. | <b>Asparaginase</b><br><br><b>(EC No 3.5.1.1)</b> | Aspergillus niger  | Aspergillus niger   | Reduce acrylamide levels | Production of bakery products and other cereal based products (e.g. pasta, noodles, snacks) potato processing and coffee processing        | GMP |
|     |                                                   | Aspergillus oryzae | Aspergillus oryzae  | Reduce acrylamide levels | Baking and other cereal-based processes (bread, pasta, noodles, snacks) coffee processing and potato processing                            | GMP |
|     |                                                   | Bacillus subtilis  | Pyrococcus furiosus | Reduce acrylamide levels | Baking and other cereal-based processes (bread, pasta, noodles, snacks) coffee and cocoa                                                   | GMP |

|     |                                                                                                   |                        |                        |                                                                                                                                                                                                                                                |                                                                              |     |
|-----|---------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----|
|     |                                                                                                   |                        |                        |                                                                                                                                                                                                                                                | processing fruit and vegetable processing                                    |     |
| 42. | <b>Glutaminase</b><br><br>(EC No. 3.5.1.2)                                                        | Bacillus licheniformis | Bacillus licheniformis | In controlling the taste and flavor of fermented foods containing ingredients such as; casein, whey protein, soy and wheat protein                                                                                                             | Dairy processing<br>egg processing<br>protein processing<br>yeast processing | GMP |
| 43. | <b>Acetolactate decarboxylase</b><br>(Alpha - acetolactate decarboxylase)<br><br>(EC No. 4.1.1.5) | Bacillus licheniformis | Bacillus brevis        | In brewing beverage processes and beverage alcohol (distilling) processes 1) Reduces formation of diacetyl during fermentation and thereby a reduction of the off-flavours 2) Enhances maturation process and thereby reduces production time. | Brewing and other production of cereal based alcoholic beverages             | GMP |
|     |                                                                                                   | Bacillus subtilis      | Brevibacillus brevis   | Butanoate metabolism and C-5 branched dibasic acid metabolism                                                                                                                                                                                  | In brewing and potable alcohol production                                    | GMP |
| 44. | <b>Pectin lyase</b><br><br>(EC No. 4.2.2.10)                                                      | Aspergillus niger      | Aspergillus niger      | Enhances juice extraction from vegetables and fruits and for                                                                                                                                                                                   | Fruit and vegetable processing, production of wine,                          | GMP |

|                               |                                                  |                                     |                                                          |                                                                                                                                                                                                  |                                                                   |       |
|-------------------------------|--------------------------------------------------|-------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------|
|                               |                                                  |                                     |                                                          | juice clarification                                                                                                                                                                              | flavouring production and coffee processing                       |       |
| 45.                           | <b>Glucose isomerase</b><br><br>(EC No. 5.3.1.5) | Streptomyces rubiginosus            | Streptomyces rubiginosus                                 | Reversible isomerization of glucose to fructose                                                                                                                                                  | Production of high fructose corn syrup                            | GMP ] |
| <b>Insertion of provision</b> |                                                  |                                     |                                                          |                                                                                                                                                                                                  |                                                                   |       |
| <sup>84</sup> [46.            | Phospholipase A2#<br>(EC No. 3.1.1.4)            | <i>Trichoderma reesei</i>           | <i>Aspergillus nishimurae</i><br>( <i>ex fumigatus</i> ) | For use in degumming of oils and fats, Egg yolk processing                                                                                                                                       | Oils and fats processing, Egg products                            | GMP   |
| 47.                           | Lysophospholipase#<br>(EC No. 3.1.1.5)           | <i>Trichoderma reesei</i><br>RF4847 | <i>Aspergillus nishimurae</i><br>( <i>ex fumigatus</i> ) | For use in starch processing, degumming of oils and fats                                                                                                                                         | Oils and fats processing, Syrups for use in soft drinks or bakery | GMP   |
| 48.                           | Lipase triacylglycerol#<br>(EC No. 3.1.1.3)      | <i>Trichoderma reesei</i>           | <i>Fusarium oxysporum</i>                                | Facilitate the handling of the dough for baking - Improve dough stability and strength structure and behaviour during the baking steps and Regulate batter viscosity, degumming of oils and fats | Bakery products, Oils and fats processing                         | GMP   |
| 49.                           | Glucose Oxidase#<br>(EC No. 1.1.3.4)             | <i>Trichoderma reesei</i>           | <i>Penicillium amagasakiense</i>                         | Facilitate the handling of dough, (reduce dough stickiness, strengthen dough structure, improve cooking tolerance) of pasta or noodle; egg processing                                            | Egg Products and Bakery and Pasta Products                        | GMP   |
| 50                            | Serine endopeptidase (protease) #                | <i>Trichoderma reesei</i>           | <i>Malbranchea cinnamomea</i>                            | It is used as a processing aid for partial or                                                                                                                                                    | Fish and meat processing                                          | GMP   |

|    |                                 |                                              |                   |                                                                          |                                  |     |
|----|---------------------------------|----------------------------------------------|-------------------|--------------------------------------------------------------------------|----------------------------------|-----|
|    | (E.C No. 3.4.21.65)             |                                              |                   | extensive hydrolysis of proteins from both animal and vegetable sources. |                                  |     |
| 51 | Chymosin#<br>(E.C No. 3.4.23.4) | <i>Aspergillus niger</i> var. <i>Awamori</i> | <i>Bos taurus</i> | Milk coagulating enzyme                                                  | Manufacture of paneer and cheese | GMP |

#All enzyme preparations should meet the following criteria:

- (i) Lead: not more than 5 mg/kg.
- (ii) Salmonella spp.: absent in 25 g sample.
- (iii) Total coliforms: not more than 30 per g.
- (iv) Escherichia coli: absent in 25 g sample
- (v) DNA: absent in preparations from microbial sources
- (vi) Antibiotic activity: absent in preparations from microbial sources.]

[This amendment shall come into force on 1<sup>st</sup> February, 2026]

<sup>73</sup>[TABLE 12: GENERALLY PERMITTED PROCESSING AIDS]

| S No. | Name of the processing aid         | Functional/ Technological Purpose | Product Category                                                   | Residue Level (mg/kg) (Not more than) |
|-------|------------------------------------|-----------------------------------|--------------------------------------------------------------------|---------------------------------------|
| 1.    | Activated carbon                   | Adsorbent, decolourizing agent    | Sugars, oils and fats, juices, <sup>81</sup> [alcoholic beverages] | GMP                                   |
| 2.    | Ammonium carbonate<br>(INS 503(i)) | pH control agent                  | Cocoa mixes (powders) and cocoa mass/cake                          | GMP                                   |
| 3.    | Ammonium hydroxide<br>(INS 527)    | Acidity regulator                 | All foods                                                          | GMP                                   |
| 4.    | Ammonium sulphate                  | Decalcification agent             | Edible casings                                                     | GMP                                   |
| 5.    | Amino acids                        | Microbial nutrient                | Alcoholic                                                          | GMP                                   |

|     |                                                                  |                                         |                                                                                          |                                 |
|-----|------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------|---------------------------------|
| 6.  | Alum<br>(Aluminiumsulphate<br>or Potassium<br>aluminiumsulphate) | Coagulant                               | beverages<br>including low<br>alcoholic and<br>alcohol free<br>counterparts              |                                 |
| 7.  | Argon<br>(INS 938)                                               | Propellant and<br>packaging gas         | All foods                                                                                | GMP                             |
| 8.  | Beta-cyclodextrin<br>(INS 459)                                   | Encapsulating<br>and thickening agent   | Butter                                                                                   | GMP                             |
| 9.  | Biotin                                                           | Microbial nutrient                      | All foods                                                                                | GMP                             |
| 10. | Bone phosphate (INS<br>542)                                      | Emulsifier, moisture<br>retention agent | All foods<br>except milk and<br>milk products                                            | GMP                             |
|     |                                                                  | Sequestrant                             | All foods                                                                                | GMP                             |
| 11. | Calcium carbonate<br>(INS 170 (i) )                              | Polishing agent                         | All foods                                                                                | GMP                             |
| 12. | Calcium chloride                                                 | Buffering agent                         | Alcoholic<br>beverages<br>including low<br>alcoholic and<br>alcohol free<br>counterparts | GMP                             |
| 13. | Calcium sulfate                                                  | Buffering agent                         |                                                                                          | GMP                             |
| 14. | Calcium and sodium<br>salts of stearic acid                      | Polishing agent                         | Confectionery                                                                            | GMP                             |
| 15. | Carbon dioxide<br>(INS 290)                                      | Gassing/aerating agent                  | All foods                                                                                | GMP                             |
| 16. | Citric acid<br>(INS 330)                                         | Sequestrant                             | Oils & fats                                                                              | GMP                             |
| 17. | Chlorine dioxide                                                 | Water treatment                         | Alcoholic<br>beverages<br>including low<br>alcoholic and<br>alcohol free                 | 1 (as<br>available<br>chlorine) |

|     |                                            |                                                                                        |                                           |     |
|-----|--------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------|-----|
|     |                                            |                                                                                        | counterparts                              |     |
| 18. | Ethyl acetate                              | Cell disruption of yeast                                                               | Yeast                                     | GMP |
| 19. | Ethyl Alcohol                              | Carrier solvent, flavouring agent                                                      | All foods                                 | GMP |
| 20. | Ethylene diamine tetra acetic acid         | Metal sequestrant                                                                      | Edible fats and oils and related products | GMP |
| 21. | Furcellaran (INS 407)                      | Thickener, gelling agent, stabilizer, emulsifier                                       | All foods                                 | GMP |
| 22. | Gibberellic acid                           | Malting, <sup>81</sup> [grain processing steps for fermentation (alcoholic beverages)] | Cereals                                   | GMP |
| 23. | Glucono delta lactone (GDL) (INS 575)      | Raising agent, sequestrant                                                             | Unripened cheese – Paneer and Chhana      | GMP |
| 24. | Glycerin/ Glycerol (INS 422)               | Polishing agent                                                                        | All foods                                 | GMP |
| 25. | Hydrochloric acid (INS 507)                | Protein hydrolysing agent                                                              | Protein products                          | GMP |
| 26. | Hydrogenated glucose syrups (INS 965 (ii)) | Sweetener, humectant, texturizer, stabilizer, bulking agent                            | All foods                                 | GMP |
| 27. | HVO (Hydrogenated vegetable oil)           | Lubricant for conveyor belts for countline products                                    | All foods                                 | GMP |
| 28. | Icing sugar                                | Polishing agent                                                                        | Confectionery                             | GMP |
| 29. | Indole acetic acid                         | Malting                                                                                | Cereals                                   | GMP |

|     |                                                 |                         |                                                                           |     |
|-----|-------------------------------------------------|-------------------------|---------------------------------------------------------------------------|-----|
| 30. | Isopropyl alcohol                               | Glazing agent           | All foods                                                                 | GMP |
| 31. | L-Cysteine (or HCl salt)                        | Dough conditioner       | Flour products                                                            | 75  |
| 32. | Lactic acid                                     | Acidity regulator       | Alcoholic beverages including low alcoholic and alcohol free counterparts | GMP |
| 33. | Liquified anhydrous ammonia                     | Bacterial nutrient      | All foods                                                                 | GMP |
| 34. | Liquid paraffin (INS 905 e)                     | Polishing agent         | Confectionery                                                             | GMP |
| 35. | Magnesium hydroxide (INS 528)                   | pH control agent        | All foods                                                                 | GMP |
| 36. | Magnesium stearate (INS 470(iii))               | Polishing agent         | Confectionery                                                             | GMP |
| 37. | Mono and diglycerides of fatty acids (INS 471 ) | Emulsifier in extrusion | Extruded foods                                                            | GMP |
| 38. | Nicotinamide                                    | Microbial nutrient      | All foods                                                                 | GMP |
| 39. | Nitrogen gas (INS 941)                          | Foaming agent           | All foods                                                                 | GMP |
| 40. | Oak dust/chips                                  | Ageing agent            | Alcoholic beverages including low alcoholic and alcohol free counterparts | GMP |
| 41. | Oxygen                                          | Propellant              | All foods                                                                 | GMP |

|     |                                                                    |                                                    |                                                                           |     |
|-----|--------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------|-----|
|     | (INS 948)                                                          | Aerating agent                                     | Alcoholic beverages including low alcoholic and alcohol free counterparts | GMP |
| 42. | Paraffin                                                           | Coating agent                                      | Cheese and cheese products                                                | GMP |
| 43. | Phospholipids<br>(INS 322 (i))                                     | Emulsifier, antioxidant                            | All foods                                                                 | GMP |
| 44. | Phosphoric acid (INS 338)                                          | Acidulant, sequestrant, synergist for antioxidants | All foods                                                                 | GMP |
|     |                                                                    | Buffering agent                                    | Alcoholic beverages including low alcoholic and alcohol free counterparts | GMP |
| 45. | Polyethylene glycols<br>(INS 1521)                                 | Carrier solvent, excipient                         | All foods                                                                 | GMP |
| 46. | Polyglycerol esters of interesterifiedricinoleic acid<br>(INS 476) | Emulsifier                                         | All foods                                                                 | GMP |
| 47. | Polyoxyethylene 40 stearate<br>(INS 431)                           | Emulsifier                                         | All foods                                                                 | GMP |
| 48. | Polyvinyl acetate                                                  | Preparation of waxes                               | Cheese and cheese products                                                | GMP |
| 49. | Potassium carbonate<br>(INS 501(i))                                | pH control agent                                   | Cocoa mixes (powders) and cocoa                                           | GMP |

|     |                                             |                                   |                                                                           |                                                     |
|-----|---------------------------------------------|-----------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------|
|     |                                             |                                   | mass/cake                                                                 |                                                     |
| 50. | Potassium dihydrogen phosphate<br>(INS 340) | pH control agent                  | All foods                                                                 | GMP                                                 |
| 51. | Potassium hydroxide<br>(INS 525)            | pH control agent                  | All foods                                                                 | GMP                                                 |
| 52. | Potassium metabisulphite<br>(INS 224)       | Antioxidant                       | Alcoholic beverages including low alcoholic and alcohol free counterparts | Maximum usage level shall not be more than 50 mg/kg |
| 53. | Propylene glycol alginate<br>(INS 405)      | Stabilizer, thickener, emulsifier | All foods                                                                 | GMP                                                 |
|     |                                             | Foam stabilizer                   | Alcoholic beverages including low alcoholic and alcohol free counterparts | GMP                                                 |
| 54. | Rice starch                                 | Polishing agent                   | Confectionery                                                             | GMP                                                 |
| 55. | Salt (NaCl)                                 | Ion exchange                      | Alcoholic beverages including low alcoholic and alcohol free counterparts | GMP                                                 |
| 56. | Silica<br>(INS 551)                         | Anticaking agent                  | All foods                                                                 | GMP                                                 |
|     |                                             | Soap absorbing agent              | Edible vegetable oils                                                     | GMP                                                 |
|     |                                             | Free flowing agent                | All foods                                                                 | GMP                                                 |
| 57. | Sodium acid pyrophosphate (SAPP)            | Prevention of darkening of frozen | Frozen vegetables                                                         | GMP                                                 |

|     |                                                           |                                                         |                                                                                          |                                 |
|-----|-----------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------|
|     |                                                           | uncooked French fries                                   |                                                                                          |                                 |
| 58. | Sodium bicarbonate<br>(INS 500 (ii))                      | pH control agent                                        | All foods                                                                                | GMP                             |
| 59. | Sodium calcium<br>polyphosphate silicate<br>(INS 452 (i)) | Stabilizer, leavening<br>agent, emulsifier,<br>nutrient | All foods                                                                                | GMP                             |
| 60. | Sodium carbonate<br>(INS 500(i))                          | pH control agent                                        | All foods                                                                                | GMP                             |
| 61. | Sodium dihydrogen<br>phosphate<br>(INS 339)               | pH control agent                                        | All foods                                                                                | GMP                             |
| 62. | Sodium Hydroxide<br>(INS 524)                             | pH control agent                                        | All foods                                                                                | GMP                             |
| 63. | Sodium Hypochlorite                                       | Water treatment                                         | Alcoholic<br>beverages<br>including low<br>alcoholic and<br>alcohol free<br>counterparts | 1 (as<br>available<br>chlorine) |
| 64. | Sodium metabisulphite<br>(INS 223)                        | Dough conditioner                                       | Flour products                                                                           | 60                              |
|     |                                                           | Softening agent                                         | Corn kernel                                                                              | 60                              |
|     |                                                           | Reducing agent                                          | Alcoholic<br>beverages<br>including low<br>alcoholic and<br>alcohol free<br>counterparts | GMP                             |
| 65. | Sodium silicate<br>(INS 550 (i))                          | Anticaking agent                                        | All foods                                                                                | GMP                             |
| 66. | Sodium sulphite                                           | Dough conditioner                                       | Flour products                                                                           | 60                              |

|                    |                              |                                                           |                                                                                          |                                  |
|--------------------|------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------|
| 67.                | Sulphuric Acid<br>(INS 513)  | pH control agent                                          | All foods                                                                                | GMP                              |
| 68.                | Sulphurous acid              | Softening agent                                           | Corn kernel                                                                              | GMP                              |
| 69.                | Sulphur dioxide<br>(INS 220) | Control of<br>nitrosodimethylamine<br>in malting          | Malting                                                                                  | 750                              |
| 70.                | Tannic Acid<br>(INS 181)     | Clarifying agent,<br>flavouring agent,<br>flavour adjunct | Juices                                                                                   | GMP                              |
| 71.                | Vitamin B12                  | Microbial nutrient                                        | All foods                                                                                |                                  |
| 72.                | Vitamin C                    | Microbial nutrient                                        | All foods                                                                                |                                  |
| 73.                | Yeast                        | Fermenting Agent                                          | Alcoholic<br>beverages<br>including low<br>alcoholic and<br>alcohol free<br>counterparts | GMP.]                            |
| 74.                | Zinc sulphate                | Mineral Salt                                              |                                                                                          |                                  |
| <sup>81</sup> [75] | Calcium hypochlorite         | Disinfectant                                              | Water treatment                                                                          | 1 (as<br>available<br>chlorine)] |

### International Numbering System (INS) for Food Additives-

The following list is only for identifying the food additive and their synonyms as published by the Codex on 23.11.2005 Codex. For the latest updates, JECFA/Codex website may be referred to ([www.codexalimentarius.net](http://www.codexalimentarius.net), [www.codexalimentarius.net/web/jecfa.jsp](http://www.codexalimentarius.net/web/jecfa.jsp))

A. List sorted by INS number

| Sl.<br>No. | INS<br>Number | Food Additive Name | Technical functions |
|------------|---------------|--------------------|---------------------|
| 1          | 2             | 3                  | 4                   |
| 1.         | 100           | Curcumins          | Colour              |
| 2.         | 100(i)        | Curcumin           | Colour              |
| 3.         | 100(ii)       | Turmeric           | Colour              |

|     |         |                                                           |        |
|-----|---------|-----------------------------------------------------------|--------|
| 4.  | 101     | Riboflavins                                               | Colour |
| 5.  | 101(i)  | Riboflavin                                                | Colour |
| 6.  | 101(ii) | Riboflavin 5'-phosphate, sodium                           | Colour |
| 7.  | 102     | Tartrazine                                                | Colour |
| 8.  | 103     | Alkanet                                                   | Colour |
| 9.  | 104     | Quinoline yellow                                          | Colour |
| 10. | 107     | Yellow 2G                                                 | Colour |
| 11. | 110     | Sunset yellow FCF                                         | Colour |
| 12. | 120     | Carmines                                                  | Colour |
| 13. | 121     | Citrus red 2                                              | Colour |
| 14. | 122     | Azorubine / Carmoisine                                    | Colour |
| 15. | 123     | Amaranth                                                  | Colour |
| 16. | 124     | Ponceau 4R                                                | Colour |
| 17. | 125     | Ponceau SX                                                | Colour |
| 18. | 127     | Erythrosine                                               | Colour |
| 19. | 128     | Red 2G                                                    | Colour |
| 20. | 129     | Allurared AC/Fast Red E                                   | Colour |
| 21. | 130     | Manascorubin                                              | Colour |
| 22. | 131     | Patent blue V                                             | Colour |
| 23. | 132     | Indigotine                                                | Colour |
| 24. | 133     | Brilliant blue FCF                                        | Colour |
| 25. | 140     | Chlorophyll                                               | Colour |
| 26. | 141     | Copper chlorophylls                                       | Colour |
| 27. | 141(i)  | Chlorophyll copper complex,                               | Colour |
| 28. | 141(ii) | Chlorophyll copper complex,<br>sodium and potassium Salts | Colour |

|     |          |                                                   |        |
|-----|----------|---------------------------------------------------|--------|
| 29. | 142      | Green S                                           | Colour |
| 30. | 143      | Fast green FCF                                    | Colour |
| 31. | 150a     | Caramel I-plain                                   | Colour |
| 32. | 150b     | Caramel II – caustic sulphite process             | Colour |
| 33. | 150c     | Caramel III – ammonia process                     | Colour |
| 34. | 150d     | Caramel IV-ammonia sulphite Process               | Colour |
| 35. | 151      | Brilliant black PN                                | Colour |
| 36. | 152      | Carbon black (hydrocarbon)                        | Colour |
| 37. | 153      | Vegetable carbon                                  | Colour |
| 38. | 154      | Brown FK                                          | Colour |
| 39. | 155      | Brown HT                                          | Colour |
| 40. | 160a     | Carotenes                                         | Colour |
| 41. | 160a(i)  | Beta-carotene (synthetic)                         | Colour |
| 42. | 160a(ii) | Natural extracts                                  | Colour |
| 43. | 160b     | Annatto extracts                                  | Colour |
| 44. | 160c     | Paprika Oleoresins                                | Colour |
| 45. | 160d     | Lycopene                                          | Colour |
| 46. | 160e     | Beta-apo-carotental                               | Colour |
| 47. | 160f     | Beta-apo-8'-carotenic acid, methyl or ethyl ester | Colour |
| 48. | 161a     | Flavoxanthin                                      | Colour |
| 49. | 161b     | Lutein                                            | Colour |
| 50. | 161c     | Kryptoxanthin                                     | Colour |
| 51. | 161d     | Rubixanthin                                       | Colour |
| 52. | 161e     | Violoxanthin                                      | Colour |

|     |          |                            |                                                 |
|-----|----------|----------------------------|-------------------------------------------------|
| 53. | 161f     | Rhodoxanthin               | Colour                                          |
| 54. | 161g     | Canthaxanthin              | Colour                                          |
| 55. | 162      | Beet red                   | Colour                                          |
| 56. | 163      | Anthocyanins               | Colour                                          |
| 57. | 163(i)   | Anthocyanins               | Colour                                          |
| 58. | 163(ii)  | Grape skin extract         | Colour                                          |
| 59. | 163(iii) | Blackcurrant extract       | Colour                                          |
| 60. | 164      | Gardenia yellow            | Colour                                          |
| 61. | 166      | Sandalwood                 | Colour                                          |
| 62. | 170      | Calcium carbonates         | Surface colourant, anticaking agent, stabilizer |
| 63. | 170(i)   | Calcium carbonate          | anticaking agent                                |
| 64. | 170(ii)  | Calcium hydrogen carbonate | anticaking agent                                |
| 65. | 171      | Titanium dioxide           | Colour                                          |
| 66. | 172      | Iron oxides                | Colour                                          |
| 67. | 172(i)   | Iron oxide, black          | Colour                                          |
| 68. | 172(ii)  | Iron oxide, red            | Colour                                          |
| 69. | 172(iii) | Iron oxide, yellow         | Colour                                          |
| 70. | 173      | Aluminium                  | Colour                                          |
| 71. | 174      | Silver                     | Colour                                          |
| 72. | 175      | Gold                       | Colour                                          |
| 73. | 180      | Lithol rubine BK           | Colour                                          |
| 74. | 181      | Tannins, food grade        | Colour, emulsifier, stabilizer, thickener       |
| 75. | 182      | Orchil                     | Colour                                          |
| 76. | 200      | Sorbic acid                | Preservative                                    |
| 77. | 201      | Sodium sorbate             | Preservative                                    |

|      |     |                                 |                                            |
|------|-----|---------------------------------|--------------------------------------------|
| 78.  | 202 | Potassium sorbate               | Preservative                               |
| 79.  | 203 | Calcium sorbate                 | Preservative                               |
| 80.  | 209 | Heptyl p-hydroxybenzoate        | Preservative                               |
| 81.  | 210 | Benzoic acid                    | Preservative                               |
| 82.  | 211 | Sodium benzoate                 | Preservative                               |
| 83.  | 212 | Potassium benzoate              | Preservative                               |
| 84.  | 213 | Calcium benzoate                | Preservative                               |
| 85.  | 214 | Ethyl p-hydroxybenzoate         | Preservative                               |
| 86.  | 215 | Sodium ethyl p-hydroxybenzoate  | Preservative                               |
| 87.  | 216 | Propyl p-hydroxybenzoate        | Preservative                               |
| 88.  | 217 | Sodium propyl p-hydroxybenzoate | Preservative                               |
| 89.  | 218 | Methyl p-hydroxybenzoate        | Preservative                               |
| 90.  | 219 | Sodium methyl p-hydroxybenzoate | Preservative                               |
| 91.  | 220 | Sulphur dioxide                 | Preservative, antioxidant                  |
| 92.  | 221 | Sodium sulphite                 | Preservative, antioxidant                  |
| 93.  | 222 | Sodium hydrogen sulphite        | Preservative, antioxidant                  |
| 94.  | 223 | Sodium metabisulphite           | Preservative, bleaching agent, antioxidant |
| 95.  | 224 | Potassium metabisulphite        | Preservative, antioxidant                  |
| 96.  | 225 | Potassium sulphite              | Preservative, antioxidant                  |
| 97.  | 226 | Calcium sulphite                | Preservative, antioxidant                  |
| 98.  | 227 | Calcium hydrogen sulphite       | Preservative, antioxidant                  |
| 99.  | 228 | Potassium bisulphate            | Preservative, antioxidant                  |
| 100. | 230 | Diphenyl                        | Preservative                               |
| 101. | 231 | Ortho-phenylphenol              | Preservative                               |
| 102. | 232 | Sodium o-phenylphenol           | Preservative                               |

|      |         |                         |                                                 |
|------|---------|-------------------------|-------------------------------------------------|
| 103. | 233     | Thiabendazole           | Preservative                                    |
| 104. | 234     | Nisin                   | Preservative                                    |
| 105. | 235     | Pimaricin (natamycin)   | Preservative                                    |
| 106. | 236     | Formic acid             | Preservative                                    |
| 107. | 237     | Sodium formate          | Preservative                                    |
| 108. | 238     | Calcium formate         | Preservative                                    |
| 109. | 239     | Hexamethylene tetramine | Preservative                                    |
| 110. | 240     | Formaldehyde            | Preservative                                    |
| 111. | 241     | Gum guaicum             | Preservative                                    |
| 112. | 242     | Dimethyl dicarbonate    | Preservative                                    |
| 113. | 249     | Potassium nitrite       | Preservative, colour fixative                   |
| 114. | 250     | Sodium nitrite          | Preservative, colour fixative                   |
| 115. | 251     | Sodium nitrate          | Preservative, colour fixative                   |
| 116. | 252     | Potassium nitrate       | Preservative, colour fixative                   |
| 117. | 260     | Acetic acid, glacial    | Preservative, acidity regulator                 |
| 118. | 261     | Potassium acetates      | Preservative, acidity regulator                 |
| 119. | 261(i)  | Potassium acetate       | Preservative, acidity regulator                 |
| 120. | 261(ii) | Potassium diacetate     | Preservative, acidity regulator                 |
| 121. | 262     | Sodium acetates         | Preservative, acidity regulator,<br>Sequestrant |
| 122. | 262(i)  | Sodium acetate          | Preservative, acidity regulator,<br>Sequestrant |
| 123. | 262(ii) | Sodium diacetate        | Preservative, acidity regulator,<br>Sequestrant |
| 124. | 263     | Calcium acetate         | Preservative, stabilizer, acidity<br>Regulator  |
| 125. | 264     | Ammonium acetate        | Acidity regulator                               |

|      |     |                             |                                      |
|------|-----|-----------------------------|--------------------------------------|
| 126. | 265 | Dehydroacetic acid          | Preservative                         |
| 127. | 266 | Sodium dehydroacetate       | Preservative                         |
| 128. | 270 | Lactic acid (L-, D—and DL-) | Acidity regulator                    |
| 129. | 280 | Propionic acid              | Preservative                         |
| 130. | 281 | Sodium propionate           | Preservative                         |
| 131. | 282 | Calcium propionate          | Preservative                         |
| 132. | 283 | Potassium propionate        | Preservative                         |
| 133. | 290 | Carbon dioxide              | Carbonating agent, Packing agent     |
| 134. | 296 | Malic acid (DL-L-)          | Acidity regulator, flavouring agent. |
| 135. | 297 | Fumaric acid                | acidity regulator                    |
| 136. | 300 | Ascorbic acid (L)           | Antioxidant                          |
| 137. | 301 | Sodium ascorbate            | Antioxidant                          |
| 138. | 302 | Calcium ascorbate           | Antioxidant                          |
| 139. | 303 | Potassium ascorbate         | Antioxidant                          |
| 140. | 304 | Ascorbyl palmitate          | Antioxidant                          |
| 141. | 305 | Ascorbyl stearate           | Antioxidant                          |
| 142. | 306 | Mixed tocopherols           | Antioxidant                          |
| 143. | 307 | Alpha-tocopherol            | Antioxidant                          |
| 144. | 308 | Synthetic gamma-tocopherol  | Antioxidant                          |
| 145. | 309 | Synthetic delta-tocopherol  | Antioxidant                          |
| 146. | 310 | Propyl gallate              | Antioxidant                          |
| 147. | 311 | Octyl gallate               | Antioxidant                          |
| 148. | 312 | Dodecyl gallate             | Antioxidant                          |
| 149. | 313 | Ethyl gallate               | Antioxidant                          |
| 150. | 314 | Guaiac resin                | Antioxidant                          |

|      |          |                               |                                                        |
|------|----------|-------------------------------|--------------------------------------------------------|
| 151. | 315      | Isoascorbic acid              | Antioxidant                                            |
| 152. | 316      | Sodium isoascorbate           | Antioxidant                                            |
| 153. | 317      | Potassium isoascorbate        | Antioxidant                                            |
| 154. | 318      | Calcium isoascorbate          | Antioxidant                                            |
| 155. | 319      | Tertiary butylhydroquinone    | Antioxidant                                            |
| 156. | 320      | Butylated hydroxyanisole      | Antioxidant                                            |
| 157. | 321      | Butylated hydroxytoluene      | Antioxidant                                            |
| 158. | 322      | Lecithins                     | Antioxidant, emulsifier                                |
| 159. | 323      | Anoxomer                      | Antioxidant                                            |
| 160. | 324      | Ethoxyquin                    | Antioxidant                                            |
| 161. | 325      | Sodium lactate                | antioxidant, synergist, humectant, bulking agent       |
| 162. | 326      | Potassium lactate             | antioxidant, synergist, acidity Regulator              |
| 163. | 327      | Calcium lactate               | acidity regulator, flour treatment agent               |
| 164. | 328      | Ammonium lactate              | acidity regulator, flour treatment agent               |
| 165. | 329      | Magnesium lactate (D-,L-)     | acidity regulator, flour treatment agent               |
| 166. | 330      | Citric acid                   | acidity regulator, synergist for Sequestrant           |
| 167. | 331      | Sodium citrates               | acidity regulator, sequestrant emulsifier stabilizer   |
| 168. | 331(i)   | Sodium dihydrogen citrate     | acidity regulator, sequestrant emulsifier, stabilizer  |
| 169. | 331(ii)  | Disodium monohydrogen citrate | acidity regulator, stabilizer, sequestrant, emulsifier |
| 170. | 331(iii) | Trisodium citrate             | acidity regulator, sequestrant, emulsifier, Stabilizer |
| 171. | 332      | Potassium citrates            | acidity regulator, sequestrant, Stabilizer             |

|      |          |                              |                                                                                           |
|------|----------|------------------------------|-------------------------------------------------------------------------------------------|
| 172. | 332(i)   | Potassium dihydrogen citrate | acidity regulator, sequestrant, Stabilizer                                                |
| 173. | 332(ii)  | Tripotassium citrate         | acidity regulator, sequestrant, Stabilizer                                                |
| 174. | 333      | calcium citrates             | acidity regulator, firming agent, Sequestrant                                             |
| 175. | 334      | Tartaric acid [L(+)-]        | acidity regulator, sequestrant, antioxidant synergist                                     |
| 176. | 335      | Sodium tartrates             | Stabilizer, sequestrant,                                                                  |
| 177. | 335(i)   | Monosodium tartrate          | Stabilizer, sequestrant                                                                   |
| 178. | 335(ii)  | Disodium tartrate            | Stabilizer, sequestrant                                                                   |
| 179. | 336      | Potassium tartrate           | Stabilizer, sequestrant                                                                   |
| 180. | 336(i)   | Monopotassium tartrate       | Stabilizer, sequestrant                                                                   |
| 181. | 336(ii)  | Dipotassium tartrate         | Stabilizer, sequestrant                                                                   |
| 182. | 337      | Potassium sodium tartrate    | Stabilizer, sequestrant                                                                   |
| 183. | 338      | Orthophosphoric acid         | acidity regulator, antioxidant Synergist                                                  |
| 184. | 339      | Sodium phosphates            | acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent  |
| 185. | 339(i)   | Monosodium orthophosphate    | Acidity regulator, texturizer, Sequestrant, stabilizer, Emulsifier, water retention agent |
| 186. | 339(ii)  | Disodium orthophosphate      | acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water retention agent  |
| 187. | 339(iii) | Trisodium orthophosphate     | sequestrant, stabilizer, Emulsifier, water retention agent, acidity regulator, Texturizer |
| 188. | 340      | Potassium Phosphates         | acidity regulator, texturizer, sequestrant, stabilizer, Emulsifier, water retention Agent |
| 189. | 340(i)   | Monopotassium orthophosphate | acidity regulator, texturizer, sequestrant, stabilizer Emulsifier, water                  |

|      |          |                              |                                                                                                                             |
|------|----------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
|      |          |                              | retention Agent                                                                                                             |
| 190. | 340(ii)  | Dipotassium orthophosphate   | acidity regulator, texturizer, sequestrant, stabilizer, Emulsifier, water retention Agent                                   |
| 191. | 340(iii) | Tripotassium orthophosphate  | acidity regulator, texturizer, sequestrant, stabilizer, Emulsifier, water retention Agent                                   |
| 192. | 341      | Calcium phosphates           | acidity regulator, texturizer, water retention agent, flour treatment agent, raising agent, firming agent, anticaking agent |
| 193. | 341(i)   | Monocalcium orthophosphate   | acidity regulator, texturizer, water retention agent, flour treatment agent, firming agent, anticaking agent                |
| 194. | 341(ii)  | Dicalcium orthophosphate     | acidity regulator, texturizer, flour treatment agent, raising agent, firming agent, anticaking Agent                        |
| 195. | 341(iii) | Tricalcium orthophosphate    | acidity regulator, texturizer, water retention agent, flour treatment agent, firming agent, anticaking agent                |
| 196. | 342      | Ammonium phosphates          | acidity regulator, flour treatment agent                                                                                    |
| 197. | 342(i)   | Monoammonium orthophosphate  | acidity regulator, flour treatment agent                                                                                    |
| 198. | 342(ii)  | Diammonium orthophosphate    | acidity regulator, flour treatment agent                                                                                    |
| 199. | 343      | Magnesium phosphates         | acidity regulator, anticaking Agent                                                                                         |
| 200. | 343(i)   | Monomagnesium orthophosphate | acidity regulator, anticaking                                                                                               |

|      |          |                             |                                        |
|------|----------|-----------------------------|----------------------------------------|
|      |          |                             | Agent                                  |
| 201. | 343(ii)  | Dimagnesium orthophosphate  | acidity regluator, anticaking<br>Agent |
| 202. | 343(iii) | Trimagnesium orthophosphate | acidity regulator, anticaking<br>Agent |
| 203. | 344      | Lecithin citrate            | Preservative                           |
| 204. | 345      | Magnesium citrate           | acidity regulator                      |
| 205. | 349      | Ammonium malate             | acidity regulator                      |
| 206. | 350      | Sodium malates              | acidity regulator, humectant           |
| 207. | 350(i)   | Sodium hydrogen malate      | acidity regulator, humectant           |
| 208. | 350(ii)  | Sodium malate               | acidity regulator, humectant           |
| 209. | 351      | Potassium malates.          | acidity regulator                      |
| 210. | 351(i)   | Potassium hydrogen malate   | acidity regulator                      |
| 211. | 351(ii)  | Potassium malate            | acidity regulator                      |
| 212. | 352      | Calcium malates             | acidity regulator                      |
| 213. | 352(i)   | Calcium hydrogen malate     | acidity regulator                      |
| 214. | 352(ii)  | Calcium malate              | acidity regulator                      |
| 215. | 353      | Metatartaric acid           | acidity regulator                      |
| 216. | 354      | Calcium tartrate            | acidity regulator                      |
| 217. | 355      | Adipic acid                 | acidity regulator                      |
| 218. | 356      | Sodium adipates             | acidity regulator                      |
| 219. | 357      | Potassium adipates          | acidity regulator                      |
| 220. | 359      | Ammonium adipates           | acidity regulator                      |
| 221. | 363      | Succinic acid               | acidity regulator                      |
| 222. | 364(i)   | Monosodium succinate        | acidity regulator, flavour             |

|      |         |                                                 |                                           |
|------|---------|-------------------------------------------------|-------------------------------------------|
|      |         |                                                 | Enhancer                                  |
| 223. | 364(ii) | Disodium succinate                              | acidity regulator, flavour<br>Enhancer    |
| 224. | 365     | Sodium fumarates                                | acidity regulator                         |
| 225. | 366     | Potassium fumarates                             | acidity regulator                         |
| 226. | 367     | Calcium fumarates                               | acidity regulator                         |
| 227. | 368     | Ammonium fumarates                              | acidity regulator                         |
| 228. | 370     | 1, 4-Heptonolactone                             | acidity regulator, sequestrant            |
| 229. | 375     | Nicotinic acid                                  | Colour retention agent                    |
| 230. | 380     | Ammonium citrates                               | acidity regulator                         |
| 231. | 381     | Ferric ammonium citrate                         | anticaking agent                          |
| 232. | 383     | Calcium glycerophosphate                        | Thickener, gelling agent,<br>Stabilizer   |
| 233. | 384     | Isopropyl citrates                              | Antioxidant, Preservative,<br>Sequestrant |
| 234. | 385     | Calcium disodium ethylene-diamine-tetra-acetate | Antioxidant, Preservative,<br>Sequestrant |
| 235. | 386     | Disodium ethylene-diamine-tetra-acetate         | Antioxidant, Preservative,<br>Sequestrant |
| 236. | 387     | Oxy stearin                                     | Antioxidant, sequestrant                  |
| 237. | 388     | Thiodipropionic acid                            | Antioxidant                               |
| 238. | 389     | Dilauryl thiodipropionate                       | Antioxidant                               |
| 239. | 390     | Distearyl thiodipropionate                      | Antioxidant                               |
| 240. | 391     | Phytic acid                                     | Antioxidant                               |
| 241. | 399     | Calcium lactobionate                            | Stabilizer                                |

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| 242. | 400  | Alginic acid                                                            | Thickener, stabilizer                                   |
| 243. | 401  | Sodium alginate                                                         | Thickener, stabilizer, gelling Agent                    |
| 244. | 402  | Potassium alginate                                                      | Thickener, stabilizer                                   |
| 245. | 403  | Ammonium alginate                                                       | Thickener, stabilizer                                   |
| 246. | 404  | Calcium alginate                                                        | Thickener, stabilizer, gelling Agent, antifoaming agent |
| 247. | 405  | Propylene glycol alginate                                               | Thickener, emulsifier                                   |
| 248. | 406  | Agar                                                                    | Thickener, gelling agent, Stabilizer                    |
| 249. | 407  | Carrageenan and its Na, K, NH <sub>4</sub> salts (includes furcellaran) | Thickener, gelling agent, Stabilizer                    |
| 250. | 407a | Processed Euchema Seaweed (PES)                                         | Thickener, stabilizer                                   |
| 251. | 408  | Bakers yeast glycan                                                     | Thickener, gelling agent, Stabilizer                    |
| 252. | 409  | Arabinogalactan                                                         | Thickener, gelling agent, Stabilizer                    |
| 253. | 410  | Carob bean gum                                                          | Thickener, Stabilizer                                   |
| 254. | 411  | Oat gum                                                                 | Thickener, Stabilizer                                   |
| 255. | 412  | Guar gum                                                                | Thickener, Stabilizer, Emulsifier                       |
| 256. | 413  | Tragacanth gum                                                          | Thickener, Stabilizer, Emulsifier                       |
| 257. | 414  | Gum arabic (acacia gum)                                                 | Thickener, Stabilizer                                   |
| 258. | 415  | Xanthan gum                                                             | Thickener, Stabilizer, emulsifier, foaming agent        |

|      |     |                                             |                                                           |
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| 259. | 416 | Karaya gum                                  | Thickener, Stabilizer                                     |
| 260. | 417 | Tara gum                                    | Thickener, Stabilizer                                     |
| 261. | 418 | Gellan gum                                  | Thickener, Stabilizer, gelling Agent                      |
| 262. | 419 | Gum ghatti                                  | Thickener, Stabilizer, Emulsifier                         |
| 263. | 420 | Sorbitol and sorbitol syrup                 | Sweetener, Humectant, sequestrant, Texturizer, Emulsifier |
| 264. | 421 | Mannitol                                    | Sweetener, anticaking agent                               |
| 265. | 422 | Glycerol                                    | Humectant, bodying agent                                  |
| 266. | 424 | Curd lan                                    | Thickener, Stabilizer                                     |
| 267. | 425 | Konjac flour                                | Thickener                                                 |
| 268. | 429 | Peptones                                    | Emulsifier                                                |
| 269. | 430 | Polyoxyethylene (8) stearate                | Emulsifier                                                |
| 270. | 431 | Polyoxyethylene (40) stearate               | Emulsifier                                                |
| 271. | 432 | Polyoxyethylene (20) sorbitan Monolaurate   | Emulsifier, dispersing agent                              |
| 272. | 433 | Polyoxyethylene (20) sorbitan Monoleate     | Emulsifier, dispersing agent                              |
| 273. | 434 | Polyoxyethylene (20) sorbitan Monopalmitate | Emulsifier, dispersing agent                              |
| 274. | 435 | Polyoxyethylene (20) sorbitan Monostearate  | Emulsifier, dispersing agent                              |
| 275. | 436 | Polyoxyethylene (20) sorbitan Tristearate   | Emulsifier, dispersing agent                              |

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| 276. | 440      | Pectins                                     | Thickener, emulsifier,<br>Stabilizer, gelling agent                                                |
| 277. | 441      | Superglycerinated hydrogenated rapeseed oil | Emulsifier                                                                                         |
| 278. | 442      | Ammonium salts of phosphatidic Acid         | Emulsifier                                                                                         |
| 279. | 443      | Brominated vegetable oil                    | Emulsifier, stabilizer                                                                             |
| 280. | 444      | Sucrose acetate isobutyrate                 | Emulsifier, stabilizer                                                                             |
| 281. | 445      | Glycerol esters of wood resin               | Emulsifier, stabilizer                                                                             |
| 282. | 446      | Succistearin                                | Emulsifier                                                                                         |
| 283. | 450      | Diphosphates                                | acidity regulator, texturizer,<br>sequestrant, stabilizer,<br>Emulsifier, water retention<br>Agent |
| 284. | 450(i)   | Disodium diphosphate                        | acidity regulator, texturizer,<br>sequestrant, stabilizer,<br>Emulsifier, water retention<br>Agent |
| 285. | 450(ii)  | Trisodium diphosphate                       | acidity regulator, texturizer,<br>sequestrant, stabilizer,<br>Emulsifier, water retention<br>Agent |
| 286. | 450(iii) | Tetrasodium diphosphate                     | acidity regulator, texturizer,<br>sequestrant, stabilizer,<br>Emulsifier, water retention<br>Agent |

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| 287. | 450(iv)    | Dipotassium diphosphate        | acidity regulator, texturizer,<br>sequestrant, stabilizer,<br>Emulsifier, water retention<br>Agent   |
| 288. | 450(v)     | Tetrapotassium diphosphate     | Emulsifier, Stabilizer, acidity<br>regulator, raising agent<br>Sequestrant, water retention<br>Agent |
| 289. | 450(vi)    | Dicalcium diphosphate          | acidity regulator, texturizer,<br>sequestrant stabilizer,<br>Emulsifier, water retention<br>Agent    |
| 290. | 450(vii)   | Calcium dihydrogen diphosphate | Emulsifier, raising agent,<br>stabilizer, sequestrant, acidity,<br>regulator, water retention agent  |
| 291. | 450 (viii) | Dimagnesium diphosphate        | acidity regulator, texturizer,<br>sequestrant, stabilizer,<br>Emulsifier, water retention<br>Agent   |
| 292. | 451        | Triphosphates                  | Sequestrant, acidity regulator<br>Texturizer                                                         |
| 293. | 451(i)     | Pentasodium                    | Sequestrant, acidity regulator,<br>Texturizer                                                        |
| 294. | 451(ii)    | Pentapotassium triphosphate    | Sequestrant, acidity regulator,<br>Texturizer                                                        |
| 295. | 452        | Polyphosphates                 | acidity regulator, texturizer,                                                                       |

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|      |          |                              | sequestrant stabilizer,<br>Emulsifier, water retention<br>Agent                                       |
| 296. | 452(i)   | Sodium polyphosphate         | acidity regulator, texturizer,<br>sequestrant stabilizer,<br>Emulsifier, water retention<br>Agent     |
| 297. | 452(ii)  | Potassium Polyphosphate      | acidity regulator, texturizer,<br>sequestrant stabilizer,<br>Emulsifier, water retention<br>Agent     |
| 298. | 452(iii) | Sodium calcium polyphosphate | Emulsifier, Stabilizer, acidity<br>regulator, raising agent,<br>Sequestrant, water retention<br>Agent |
| 299. | 452(iv)  | Calcium polyphosphates       | Emulsifier, Stabilizer, acidity<br>regulator, raising agent,<br>Sequestrant, water retention<br>Agent |
| 300. | 452(v)   | Ammonium polyphosphates      | Emulsifier, Stabilizer, acidity<br>regulator, raising agent,<br>Sequestrant, water retention<br>Agent |
| 301. | 458      | Gamma Cyclodextrin           | Stabilizer, binder                                                                                    |
| 302. | 459      | Beta-cyclodextrin            | Stabilizer, binder                                                                                    |
| 303. | 460      | Cellulose                    | Emulsifier, dispersing agent,                                                                         |

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|      |         |                                                                             | anticaking agent, texturizer                           |
| 304. | 460(i)  | Microcrystalline cellulose                                                  | Emulsifier, dispersing agent,<br>anticaking agent      |
| 305. | 460(ii) | Powdered cellulose                                                          | Emulsifier dispersing agent,<br>anticaking agent       |
| 306. | 461     | Methyl cellulose                                                            | Thickener, Emulsifier,<br>Stabilizer                   |
| 307. | 462     | Ethyl cellulose                                                             | Binder, filler                                         |
| 308. | 463     | Hydroxypropyl cellulose                                                     | Thickener, Emulsifier,<br>Stabilizer                   |
| 309. | 464     | Hydroxypropyl methyl cellulose                                              | Thickener, Emulsifier,<br>Stabilizer                   |
| 310. | 465     | Methyl ethyl cellulose                                                      | Thickener antifoaming agent,<br>Emulsifier, stabilizer |
| 311. | 466     | Sodium carboxymethyl cellulose                                              | Thickener, Emulsifier,<br>Stabilizer                   |
| 312. | 467     | Ethyl hydroxyethyl cellulose                                                | Thickener, Emulsifier,<br>Stabilizer                   |
| 313. | 468     | Croscarmellose                                                              | Stabilizer, binder                                     |
| 314. | 469     | Sodium carboxymethyl cellulose,<br>enzymatically hydrolysed                 | Thickener, stabilizer                                  |
| 315. | 470     | Salts of fatty acids (with base Al,<br>Ca, Na, Mg, K, and NH <sub>4</sub> ) | Emulsifier, Stabilizer,<br>anticaking agent            |
| 316. | 471     | Mono-and di-glycerides of fatty<br>acids                                    | Emulsifier, Stabilizer                                 |
| 317. | 472a    | Acetic and fatty acid esters of                                             | Emulsifier, Stabilizer                                 |

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|------|------|---------------------------------------------------------------|--------------------------------------|
|      |      | glycerol                                                      | Sequestrant                          |
| 318. | 472b | Lactic and fatty acid esters of glycerol                      | Emulsifier, Stabilizer, Sequestrant  |
| 319. | 472c | Citric and fatty acid esters of glycerol                      | Emulsifier, Stabilizer, Sequestrant  |
| 320. | 472d | Tartaric acid esters of mono and diglycerides of fatty acids  | Emulsifier, Stabilizer, Sequestrant  |
| 321. | 472e | Diacetyltartric and fatty acid ester of glycerol              | Emulsifier, Stabilizer, Sequestrant  |
| 322. | 472f | Mixed tartaric, acetic and fatty acid esters of glycerol      | Emulsifier, Stabilizers, Sequestrant |
| 323. | 472g | Succinylated monoglycerides                                   | Emulsifier, Stabilizer, Sequestrant  |
| 324. | 473  | Sucrose esters of fatty acids                                 | Emulsifier, Stabilizer, Sequestrant  |
| 325. | 474  | Sucroglycerides                                               | Emulsifier, Stabilizer, Sequestrant  |
| 326. | 475  | Polyglycerol esters of fatty acid                             | Emulsifier, Stabilizer, Sequestrant  |
| 327. | 476  | Polyglycerol esters of interesterified ricinoleic acid        | Emulsifier, Stabilizer, Sequestrant  |
| 328. | 477  | Propylene glycol esters of fatty Acids                        | Emulsifier, Stabilizer, Sequestrant  |
| 329. | 478  | Lactylated fatty acid esters of glycerol and propylene glycol | Emulsifier, Stabilizer, Sequestrant  |
| 330. | 479. | Thermally oxidized soya bean                                  | Emulsifier, Stabilizer,              |

|      |         |                                                |                                                    |
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|      |         | oil with mono-and di-glycerides of fatty acids | Sequestrant                                        |
| 331. | 480     | Dioctyl sodium sulphosuccinate                 | Emulsifier, wetting agent                          |
| 332. | 481     | Sodium lactylate                               | Emulsifier, Stabilizer                             |
| 333. | 481(i)  | Sodium stearyl lactylates                      | Emulsifier, Stabilizer                             |
| 334. | 481(ii) | Sodium oleyl lactylate                         | Emulsifier, Stabilizer                             |
| 335. | 482     | Calcium lactylates                             | Emulsifier, Stabilizer                             |
| 336. | 482(i)  | Calcium stearyl lactylate                      | Emulsifier, Stabilizer                             |
| 337. | 482(ii) | Calcium oleyl lactylates                       | Emulsifier, Stabilizer                             |
| 338. | 483     | Stearyl tartrate                               | Flour treatment agent                              |
| 339. | 484     | Stearyl citrate                                | Emulsifier, sequestrant                            |
| 340. | 485     | Sodium stearyl fumarate                        | Emulsifier                                         |
| 341. | 486     | Calcium stearyl fumarate                       | Emulsifier                                         |
| 342. | 487     | Sodium laurylsulphate                          | Emulsifier                                         |
| 343. | 488     | Ethoxylated mono-and di-glycerides             | Emulsifier                                         |
| 344. | 489     | Methyl glucoside-coconut oil ester             | Emulsifier                                         |
| 345. | 491     | Sorbitan monostearate                          | Emulsifier                                         |
| 346. | 492     | Sorbitan tristearate                           | Emulsifier                                         |
| 347. | 493     | Sorbitan monolaurate                           | Emulsifier                                         |
| 348. | 494     | Sorbitan monooleate                            | Emulsifier                                         |
| 349. | 495     | Sorbitan monopalmitate                         | Emulsifier                                         |
| 350. | 496     | Sorbitan trioleate                             | Stabilizer, Emulsifier                             |
| 351. | 500     | Sodium carbonates                              | acidity regulator, raising agent, anticaking agent |
| 352. | 500(i)  | Sodium carbonate                               | acidity regluator, raising agent,                  |

|      |          |                              |                                                                |
|------|----------|------------------------------|----------------------------------------------------------------|
|      |          |                              | anticaking agent                                               |
| 353. | 500(ii)  | Sodium hydrogen carbonate    | acidity regulator, raising agent,<br>anticaking agent          |
| 354. | 500(iii) | Sodium sesquicarbonate       | acidity regulator, raising agent,<br>anticaking agent          |
| 355. | 501      | Potassium carbonates         | acidity regulator, stabilizer                                  |
| 356. | 501(i)   | Potassium carbonate          | acidity regulator, stabilizer                                  |
| 357. | 501(ii)  | Potassium hydrogen carbonate | acidity regulator, stabilizer                                  |
| 358. | 503      | Ammonium carbonates          | acidity regulator, raising agent                               |
| 359. | 503(i)   | Ammonium carbonate           | acidity regulator, raising agent                               |
| 360. | 503(ii)  | Ammonium hydrogen carbonate  | acidity regulator, raising agent                               |
| 361. | 504      | Magnesium carbonates         | acidity regulator, anticaking<br>agent, colour retention agent |
| 362. | 504(i)   | Magnesium carbonate          | acidity regulator, anticaking<br>agent, colour retention agent |
| 363. | 504(ii)  | Magnesium hydrogen carbonate | acidity regulator, anticaking<br>agent, colour retention agent |
| 364. | 505      | Ferrous carbonate            | acidity regulator                                              |
| 365. | 507      | Hydrochloric acid            | acidity regulator acid                                         |
| 366. | 508      | Potassium chloride           | gelling agent                                                  |
| 367. | 509      | Calcium chloride             | firming agent                                                  |
| 368. | 510      | Ammonium chloride            | flour treatment agent                                          |
| 369. | 511      | Magnesium chloride           | firming agent                                                  |
| 370. | 512      | Stannous chloride            | Antioxidant, colour retention<br>Agent                         |

|      |     |                              |                                                  |
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| 371. | 513 | Sulphuric acid               | acidity regulator                                |
| 372. | 514 | Sodium sulphates             | acidity regulator                                |
| 373. | 515 | Potassium sulphates          | Acidity regulator                                |
| 374. | 516 | Calcium Sulphate             | Dough conditioner,<br>Sequestrant, firming agent |
| 375. | 517 | Ammonium sulphate            | Flour treatment agent, stabilizer                |
| 376. | 518 | Magnesium sulphate           | firming agent                                    |
| 377. | 519 | Cupric sulphate              | colour fixative, preservative                    |
| 378. | 520 | Aluminium sulphate           | firming agent                                    |
| 379. | 521 | Aluminium sodium Sulphate    | firming agent                                    |
| 380. | 522 | Aluminium potassium Sulphate | Acidity regulator, stabilizer                    |
| 381. | 523 | Aluminium ammonium Sulphate  | Stabilizer, firming agent                        |
| 382. | 524 | Sodium hydroxide             | acidity regulator                                |
| 383. | 525 | Potassium hydroxide          | acidity regulator                                |
| 384. | 526 | Calcium hydroxide            | acidity regulator, firming agent                 |
| 385. | 527 | Ammonium hydroxide           | acidity regulator                                |
| 386. | 528 | Magnesium hydroxide          | acidity regulator, colour<br>retention agent     |
| 387. | 529 | Calcium oxide                | acidity regulator, colour<br>retention agent     |
| 388. | 530 | Magnesium oxide              | anticaking agent                                 |
| 389. | 535 | Sodium ferrocyanide          | anticaking agent                                 |
| 390. | 536 | Potassium ferrocyanide       | anticaking agent                                 |
| 391. | 537 | Ferrous hexacyanomanganate   | anticaking agent                                 |
| 392. | 538 | Calcium ferrocyanide         | anticaking agent                                 |

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| 393. | 539      | Sodium thiosulphate                                      | antioxidant, sequestrant                            |
| 394. | 541      | Sodium aluminium phosphate                               | acidity regulator, emulsifier                       |
| 395. | 541(i)   | Sodium aluminium phosphate-acidic                        | acidity regulator, emulsifier                       |
| 396. | 541(ii)  | Sodium aluminium phosphate-basic                         | acidity regulator, emulsifier                       |
| 397. | 542      | Bone phosphate (essentially calcium phosphate, tribasic) | Emulsifier, anticaking agent, water retention agent |
| 398. | 550      | Sodium silicates                                         | anticaking agent                                    |
| 399. | 550(i)   | Sodium silicate                                          | anticaking agent                                    |
| 400. | 550(ii)  | Sodium metasilicate                                      | anticaking agent                                    |
| 401. | 551      | Silicon dioxide, amorphous                               | anticaking agent                                    |
| 402. | 552      | Calcium silicate                                         | anticaking agent                                    |
| 403. | 553      | Magnesium silicates                                      | anticaking agent, dusting Powder                    |
| 404. | 553(i)   | Magnesium silicate                                       | anticaking agent, dusting Powder                    |
| 405. | 553(ii)  | Magnesium trisilicate                                    | anticaking agent, dusting Powder                    |
| 406. | 553(iii) | Talc                                                     | anticaking agent, dusting Powder                    |
| 407. | 554      | Sodium aluminosilicate                                   | anticaking agent                                    |
| 408. | 555      | Potassium aluminium silicate                             | anticaking agent                                    |
| 409. | 556      | Calcium aluminium silicate                               | anticaking agent                                    |
| 410. | 557      | Zinc silicate                                            | anticaking agent                                    |
| 411. | 558      | Bentonite                                                | anticaking agent                                    |

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| 412. | 559 | Aluminium silicate       | anticaking agent                                     |
| 413. | 560 | Potassium silicate       | anticaking agent                                     |
| 414. | 570 | Fatty acids              | foam stabilizer, glazing agent,<br>antifoaming agent |
| 415. | 574 | Gluconic acid (D-)       | acidity regulator, raising agent                     |
| 416. | 575 | Glucono delta-lactone    | acidity regulator, raising agent                     |
| 417. | 576 | Sodium gluconate         | Sequestrant                                          |
| 418. | 577 | Potassium gluconate      | Sequestrant                                          |
| 419. | 578 | Calcium gluconate        | acidity regluator, firming agent                     |
| 420. | 579 | Ferrous gluconate        | Colour retention agent                               |
| 421. | 580 | Magnesium gluconate      | acidity regulator, firming agent                     |
| 422. | 585 | Ferrous lactate          | colour retention agent                               |
| 423. | 586 | 4-Hexylresorcinol        | colour retention agent,<br>Antioxidant               |
| 424. | 620 | Glutamic acid (L (+)-)   | flavour enhancer                                     |
| 425. | 621 | Monosodium glutamate     | flavour enhancer                                     |
| 426. | 622 | Monopotassium glutamate  | flavour enhancer                                     |
| 427. | 623 | Calcium glutamate        | flavour enhancer                                     |
| 428. | 624 | Monoammonium glutamate   | flavour enhancer                                     |
| 429. | 625 | Magnesium glutamate      | flavour enhancer                                     |
| 430. | 626 | Guanylic acid            | flavour enhancer                                     |
| 431. | 627 | Disodium 5'-guanylate    | flavour enhancer                                     |
| 432. | 628 | Dipotassium 5'-guanylate | flavour enhancer                                     |
| 433. | 629 | Calcium 5'-guanylate     | flavour enhancer                                     |
| 434. | 630 | Inosinic acid            | flavour enhancer                                     |

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| 435. | 631  | Disodium 5'-inosinate       | flavour enhancer                                |
| 436. | 632  | Potassium Inosate           | flavour enhancer                                |
| 437. | 633  | Calcium 5'-inosinate        | flavour enhancer                                |
| 438. | 634  | Calcium 5'-ribonucleotides  | flavour enhancer                                |
| 439. | 635  | Disodium 5'-ribonucleotides | flavour enhancer                                |
| 440. | 636  | Maltol                      | flavour enhancer                                |
| 441. | 637  | Ethyl maltol                | flavour enhancer                                |
| 442. | 638  | Sodium L-Aspartate          | flavour enhancer                                |
| 443. | 639  | DL-Alanine                  | flavour enhancer                                |
| 444. | 640  | Glycine                     | flavour enhancer                                |
| 445. | 641  | L-Leucine                   | flavour enhancer                                |
| 446. | 642  | Lysin hydrochloride         | flavour enhancer                                |
| 447. | 900a | Polydimethylsiloxane        | antifoaming agent, anticaking agent, emulsifier |
| 448. | 900b | Methylphenylpolysiloxane    | antifoaming agent                               |
| 449. | 901  | Beeswax, white and yellow   | glazing agent, release agent                    |
| 450. | 902  | Candeilla Wax               | glazing agent                                   |
| 451. | 903  | Carnaubawax                 | glazing agent                                   |
| 452. | 904  | Shellac                     | glazing agent                                   |
| 453. | 905a | Mineral oil, food grade     | glazing agent, release agent, sealing agent     |
| 454. | 905b | Petrolatum Petroleumielly   | glazing agent, release agent, sealing agent     |
| 455. | 905c | Petroleum wax               | glazing agent, release agent, sealing agent     |

|      |          |                                                                  |                       |
|------|----------|------------------------------------------------------------------|-----------------------|
| 456. | 905c(i)  | Microcrystallinewax                                              | glazing agent         |
| 457. | 905c(ii) | Paraffin wax                                                     | glazing agent         |
| 458. | 906      | Benzoin gum                                                      | glazing agent         |
| 459. | 907      | Hydrogenated poly-1 decene                                       | glazing agent         |
| 460. | 908      | Rice bran wax                                                    | glazing agent         |
| 461. | 909      | Spermaceti wax                                                   | glazing agent         |
| 462. | 910      | Wax esters                                                       | glazing agent         |
| 463. | 911      | Methyl esters of fatty acids                                     | glazing agent         |
| 464. | 913      | Lanolin                                                          | glazing agent         |
| 465. | 915      | Glycerol-, methyl-, or penta-<br>erithrytol esters of colophane  | glazing agent         |
| 466. | 916      | Calcium iodate                                                   | flour treatment agent |
| 467. | 917      | Potassium iodate                                                 | flour treatment agent |
| 468. | 918      | Nitrogen oxide                                                   | flour treatment agent |
| 469. | 919      | Nitrosyl chloride                                                | flour treatment agent |
| 470. | 920      | L-Cysteine and its hydrochlorides-<br>sodium and potassium salts | flour treatment agent |
| 471. | 921      | L-Cysteine and its hydrochlorides-<br>sodium and potassium salts | flour treatment agent |
| 472. | 922      | Potassium persulphate                                            | flour treatment agent |
| 473. | 923      | Ammonium persulphate                                             | flour treatment agent |
| 474. | 924a     | Potassium bromate                                                | flour treatment agent |
| 475. | 924b     | Calcium bromate                                                  | flour treatment agent |
| 476. | 925      | Chlorine                                                         | flour treatment agent |
| 477. | 926      | Chlorine dioxide                                                 | flour treatment agent |

|      |                    |                                     |                                                              |
|------|--------------------|-------------------------------------|--------------------------------------------------------------|
| 478. | 927a               | Azodicarbonamide                    | flour treatment agent                                        |
| 479. | 927b               | Carbamide (urea)                    | flour treatment agent                                        |
| 480. | 928                | Benzoyl peroxide                    | flour treatment agent,<br>Preservative                       |
| 481. | 929                | Acetone peroxide                    | flour treatment agent                                        |
| 482. | 930                | Calcium peroxide                    | flour treatment agent                                        |
| 483. | 938                | Argon                               | packing gas                                                  |
| 484. | 939                | Helium                              | packing gas                                                  |
| 485. | 940                | Dichlorodifluoromethane             | Propellant, liquid freezant                                  |
| 486. | 941                | Nitrogen                            | Packing gas, freezant                                        |
| 487. | 942                | Nitrous oxide                       | Propellant                                                   |
| 488. | 943a               | Butane                              | Propellant                                                   |
| 489. | 943b               | Isobutane                           | Propellant                                                   |
| 490. | 944                | Propane                             | Propellant                                                   |
| 491. | 945                | Chloropentafluoroethane             | Propellant                                                   |
| 492. | 946                | Octafluorocyclobutane               | Propellant                                                   |
| 493. | 948                | Oxygen                              | packing gas                                                  |
| 494. | 950                | Acesulfame potassium                | Sweetener, flavour enhancer                                  |
| 495. | 951                | Aspartame                           | Sweetener, flavour enhancer                                  |
| 496. | 952                | Cyclamic acid (and Na, K, Ca Salts) | Sweetener                                                    |
| 497. | 953                | Isomalt (isomaltitol)               | Sweetener, anticaking agent,<br>bulking agent, glazing agent |
| 498. | 954                | Saccharin (and Na, K, Ca salts)     | Sweetener                                                    |
| 499. | 955                | Sucralose (trichlorogalactosucrose) | Sweetener                                                    |
| 500. | <sup>75</sup> [956 | -----]                              |                                                              |

|      |           |                                |                                                                 |
|------|-----------|--------------------------------|-----------------------------------------------------------------|
| 501. | 957       | Thaumatococcus                 | Sweetener, flavour enhancer                                     |
| 502. | 958       | Glycyrrhizin                   | Sweetener, flavour enhancer                                     |
| 503. | 959       | Neohesperidine dihydrochalcone | Sweetener                                                       |
| 504. | 960       | Stevioside                     | Sweetener                                                       |
| 505. | 964       | Polyglycitol syrup             | Sweetener                                                       |
| 506. | 965       | Maltitol and matitol Syrup     | Sweetener, stabilizer, emulsifier                               |
| 507. | 966       | Lactitol                       | Sweetener, texturizer                                           |
| 508. | 967       | Xylitol                        | Sweetener, humectant, stabilizer, Emulsifier, thickener         |
| 509. | 968       | Erythritol                     | Sweetener, flavour enhancer, Humectant                          |
| 510. | 999       | Quillaja extracts              | foaming agent                                                   |
| 511. | 1000      | Cholic acid                    | Emulsifier                                                      |
| 512. | 1001      | Choline salts and esters       | Emulsifier                                                      |
| 513. | 1001(i)   | Choline acetate                | Emulsifier                                                      |
| 514. | 1001(ii)  | Choline carbonate              | Emulsifier                                                      |
| 515. | 1001(iii) | Choline chloride               | Emulsifier                                                      |
| 516. | 1001(iv)  | Choline citrate                | Emulsifier                                                      |
| 517. | 1001(v)   | Choline tartrate               | Emulsifier                                                      |
| 518. | 1001(vi)  | Choline lactate                | Emulsifier                                                      |
| 519. | 1100      | Amylases                       | flour treatment agent                                           |
| 520. | 1101      | Proteases                      | flour treatment agent, stabilizer, tenderizer, flavour enhancer |
| 521. | 1101(i)   | Protease                       | flour treatment agent, stabilizer, tenderizer, flavour enhancer |

|                                             |           |                                           |                                                                 |
|---------------------------------------------|-----------|-------------------------------------------|-----------------------------------------------------------------|
| 522                                         | 1101(ii)  | Papain                                    | flour treatment agent, stabilizer, tenderizer, flavour enhancer |
| 523                                         | 1101(iii) | Bromelain                                 | flour treatment agent, stabilizer, tenderizer, flavour enhancer |
| 524                                         | 1101(iv)  | Ficin                                     | flour treatment agent, stabilizer, tenderizer, flavour enhancer |
| 525                                         | 1102      | Glucose oxidase                           | Antioxidant                                                     |
| 526                                         | 1103      | Invertases                                | Stabilizer                                                      |
| 527                                         | 1104      | Lipases                                   | flavour enhancer                                                |
| 528                                         | 1105      | Lysozyme                                  | Preservative                                                    |
| 529                                         | 1200      | Polydextroses A and N                     | bulking agent, stabilizer, thickener, Humectant texturizer      |
| 530                                         | 1201      | Polyvinylpyrrolidone                      | bodying agent, stabilizer, clarifying agent, dispersing Agent   |
| 531                                         | 1202      | Polyvinylpolypyrrolidone                  | colour stabilizer, colloidal, Stabilizer                        |
| 532                                         | 1503      | Castor oil                                | release agent                                                   |
| 533                                         | 1505      | Triethyl citrate                          | foam stabilizer                                                 |
| 534                                         | 1518      | Triacetin                                 | Humectant                                                       |
| 535                                         | 1520      | Propylene glycol                          | Humectant, Wetting agent, dispersing agent                      |
| 536                                         | 1521      | Polyethylene glycol                       | antifoaming agent                                               |
| <i>Supplementary List-Modified Starches</i> |           |                                           |                                                                 |
| 537                                         | 1400      | Dextrins, roasted starch white and yellow | Stabilizer, thickener, binder                                   |

|     |      |                                                             |                                           |
|-----|------|-------------------------------------------------------------|-------------------------------------------|
| 538 | 1401 | Acid-treated starch                                         | Stabilizer, thickener, binder             |
| 539 | 1402 | Alkaline treated starch                                     | Stabilizer, thickener, binder             |
| 540 | 1403 | Bleached starch                                             | Stabilizer, thickener, binder             |
| 541 | 1404 | Oxidised starch                                             | Stabilizer, thickener, binder             |
| 542 | 1405 | Starches, enzyme-treated                                    | Thickener                                 |
| 543 | 1410 | Monostarch phosphate                                        | Stabilizer, thickener, binder             |
| 544 | 1411 | Distarch glycerol                                           | Stabilizer, thickener, binder             |
| 545 | 1412 | Distarch phosphate esterified with sodium trimetaphosphate; | Stabilizer, thickener, binder             |
| 546 | 1413 | Phosphated distarch phosphate                               | Stabilizer, thickener, binder             |
| 547 | 1414 | Acetylated distarch phosphate                               | Emulsifier, thickener, binder             |
| 548 | 1420 | Starch acetate esterified with Acetic anhydride             | Stabilizer, thickener                     |
| 549 | 1421 | Starch acetate esterified with vinyl acetate                | Stabilizer, thickener                     |
| 550 | 1422 | Acetylated distarch adipate                                 | Stabilizer, thickener, binder, Emulsifier |
| 551 | 1423 | Acetylated distarch glycord                                 | Stabilizer, thickener                     |
| 552 | 1440 | Hydroxypropyl starch                                        | Stabilizer, thickener, binder, Emulsifier |
| 553 | 1442 | Hydroxypropyl distarch phosphate                            | Stabilizer, thickener                     |
| 554 | 1443 | Hydroxypropyl distarch                                      | Stabilizer, thickener                     |
| 555 | 1450 | Starch sodium octenyl succinate                             | Stabilizer, thickener, binder             |

**B.List sorted in alphabetical Order-**

| Sl. No. | INS Number | Food Additive Name | Technical functions |
|---------|------------|--------------------|---------------------|
|---------|------------|--------------------|---------------------|

|     |                       |                                             |                                         |
|-----|-----------------------|---------------------------------------------|-----------------------------------------|
| 1.  | 370                   | 1,4-Heptonolactone                          | acidity regulator, sequestrant          |
| 2.  | 586                   | 4-Hexylresorcinol                           | colour retention agent,<br>Antioxidant  |
| 3.  | 950                   | Acesulfame potassium                        | Sweetener, flavour enhancer             |
| 4.  | 260                   | Acetic acid, glacial                        | Preservative, acidity regulator         |
| 5.  | 472a                  | Acetic and fatty acid esters of<br>Glycerol | Emulsifier, Stabilizer,<br>Sequestrant  |
| 6.  | 929                   | Acetone peroxide                            | flour treatment agent                   |
| 7.  | 355                   | Adipic acid                                 | Acidity regulator                       |
| 8.  | 406                   | Agar                                        | Thickener, gelling agent,<br>Stabilizer |
| 9.  | 400                   | Alginic acid                                | Thickener, stabilizer                   |
| 10. | <sup>75</sup> [-----] | -----]                                      |                                         |
| 11. | 103                   | Alkanet                                     | Colour                                  |
| 12. | 129                   | Allurared AC                                | Colour                                  |
| 13. | 307                   | Alpha-tocopherol                            | Antioxidant                             |
| 14. | 173                   | Aluminium                                   | Colour                                  |
| 15. | 523                   | Aluminium ammonium sulphate                 | Stabilizer, firming agent               |
| 16. | 522                   | Aluminium potassium sulphate                | acidity regulator, stabilizer           |
| 17. | 559                   | Aluminium sodium silicate                   | anticaking agent                        |
| 18. | 521                   | Aluminium sodium sulphate                   | firming agent                           |
| 19. | 520                   | Aluminium sulphate                          | firming agent                           |
| 20. | 123                   | Amaranth                                    | Colour                                  |
| 21. | 264                   | Ammonium acetate                            | Acidity regulator                       |
| 22. | 359                   | Ammonium adipates                           | Acidity regulator                       |

|     |         |                                     |                                                                                            |
|-----|---------|-------------------------------------|--------------------------------------------------------------------------------------------|
| 23. | 403     | Ammonium alginate                   | Thickener, stabilizer                                                                      |
| 24. | 503(i)  | Ammonium carbonate                  | acidity regulator, raising agent                                                           |
| 25. | 503     | Ammonium carbonates                 | acidity regulator, raising agent                                                           |
| 26. | 510     | Ammonium chloride                   | flour treatment agent                                                                      |
| 27. | 380     | Ammonium citrates                   | Acidity regulator                                                                          |
| 28. | 368     | Ammonium fumarate                   | Acidity regulator                                                                          |
| 29. | 503(ii) | Ammonium hydrogen carbonate         | acidity regulator, raising agent                                                           |
| 30. | 527     | Ammonium hydroxide                  | Acidity regulator                                                                          |
| 31. | 328     | Ammonium lactate                    | acidity regulator, flour treatment agent                                                   |
| 32. | 349     | Ammonium malate                     | Acidity regulator                                                                          |
| 33. | 923     | Ammonium persulphate                | flour treatment agent                                                                      |
| 34. | 342     | Ammonium phosphates                 | acidity regulator, flour treatment agent                                                   |
| 35. | 452(v)  | Ammonium polyphosphates             | emulsifier raising agent, stabilizer sequestrant, Acidity regulator, water retention agent |
| 36. | 442     | Ammonium salts of phosphatidic Acid | Emulsifier                                                                                 |
| 37. | 517     | Ammonium sulphate                   | flour treatment agent, stabilizer                                                          |
| 38. | 1100    | Amylases                            | flour treatment agent                                                                      |
| 39. | 160b    | Annatto extracts                    | Colour                                                                                     |
| 40. | 323     | Anoxomer                            | Antioxidant                                                                                |
| 41. | 163(i)  | Anthocyanins                        | Colour                                                                                     |

|     |          |                                                     |                                         |
|-----|----------|-----------------------------------------------------|-----------------------------------------|
| 42. | 163      | Anothocyanins                                       | Colour                                  |
| 43. | 409      | Arabinogalactan                                     | Thickener, gelling agent,<br>Stabilizer |
| 44. | 938      | Argon                                               | packing gas                             |
| 45. | 300      | Ascorbic acid(L-)                                   | Antioxidant                             |
| 46. | 304      | Ascorbyl palmitate                                  | Antioxidant                             |
| 47. | 305      | Ascorbyl stearate                                   | Antioxidant                             |
| 48. | 951      | Aspartame                                           | Sweetener, flavour enhancer             |
| 49. | 927a     | Azodicarbonamide                                    | flour treatment agent                   |
| 50. | 122      | Azorubine                                           | Colour                                  |
| 51. | 408      | Bakers yeast glycan                                 | Thickener, gelling agent,<br>Stabilizer |
| 52. | 901      | Beeswax, white and yellow                           | glazing agent, release agent            |
| 53. | 162      | Beet red                                            | Colour                                  |
| 54. | 558      | Bentonite                                           | anticaking agent                        |
| 55. | 210      | Benzole acid                                        | Preservative                            |
| 56. | 906      | Benzoin gum                                         | glazing agent                           |
| 57. | 928      | Benzoyl peroxide                                    | flour treatment agent,<br>Preservative  |
| 58. | 160 f    | Beta-apo-8'carotenic acid, methyl<br>or ethyl ester | Colour                                  |
| 59. | 160e     | Beta-apo-Carotenal                                  | Colour                                  |
| 60. | 160a(i)  | Beta-Carotene (Synthetic)                           | Colour                                  |
| 61. | 459      | Beta-cyclodextrin                                   | Stabilizer, binder                      |
| 62. | 163(iii) | Blackcurrant extract                                | Colour                                  |

|     |           |                                                          |                                                                 |
|-----|-----------|----------------------------------------------------------|-----------------------------------------------------------------|
| 63. | 542       | Bone phosphate (essentially calcium phosphate, tribasic) | Emulsifier, anticaking agent, water retention agent             |
| 64. | 151       | Brilliant black PN                                       | Colour                                                          |
| 65. | 133       | Brilliant blue FCF                                       | Colour                                                          |
| 66. | 1101(iii) | Bromelain                                                | flour treatment agent, stabilizer, tenderizer, flavour enhancer |
| 67. | 443       | Brominated vegetable oil                                 | Emulsifier, stabilizer                                          |
| 68. | 154       | Brown FK                                                 | Colour                                                          |
| 69. | 155       | Brown HT                                                 | Colour                                                          |
| 70. | 943a      | Butane                                                   | Propellant                                                      |
| 71. | 320       | Butylated hydroxyanisole                                 | Antioxidant                                                     |
| 72. | 321       | Butylated hydroxytoluene                                 | Antioxidant                                                     |
| 73. | 629       | Calcium 5'-guanylate                                     | flavour enhancer                                                |
| 74. | 633       | Calcium 5' -inosinate                                    | flavour enhancer                                                |
| 75. | 634       | Calcium 5' -ribonucleotides                              | flavour enhancer                                                |
| 76. | 263       | Calcium acetate                                          | Preservative, stabilizer, acidity Regulator                     |
| 77. | 404       | Calcium alginate                                         | Thickener, Stabilizer, gelling agent, antifoaming agent         |
| 78. | 556       | Calcium aluminium silicate                               | anticaking agent                                                |
| 79. | 302       | Calcium ascorbate                                        | Antioxidant                                                     |
| 80. | 213       | Calcium benzoate                                         | Preservative                                                    |
| 81. | 924 b     | Calcium bromate                                          | flour treatment agent                                           |
| 82. | 170(i)    | Calcium carbonate                                        | anticaking agent                                                |
| 83. | 170       | Calcium carbonate                                        | Surface colourant, anticaking                                   |

|      |           |                                                 |                                                                                            |
|------|-----------|-------------------------------------------------|--------------------------------------------------------------------------------------------|
|      |           |                                                 | agent, stabilizer                                                                          |
| 84.  | 509       | Calcium chloride                                | firming agent                                                                              |
| 85.  | 333       | Calcium citrates                                | acidity regulator, firming agent,<br>Sequestrant                                           |
| 86.  | 450 (vii) | Calcium dihydrogen diphosphate                  | emulsifier, raising agent, stabilizer sequestrant, acidity regulator water retention agent |
| 87.  | 385       | Calcium disodium ethylene-diamine-tetra-acetate | Antioxidant, Preservative, Sequestrant                                                     |
| 88.  | 538       | Calcium ferrocyanide                            | anticaking agent                                                                           |
| 89.  | 238       | Calcium formate                                 | Preservative                                                                               |
| 90.  | 367       | Calcium fumarates                               | Acidity regulator                                                                          |
| 91.  | 578       | Calcium gluconate                               | acidity regulator, firming agent                                                           |
| 92.  | 623       | Calcium glutamate                               | flavour enhancer                                                                           |
| 93.  | 383       | Calcium                                         | Thickener, gelling agent, Stabilizer                                                       |
| 94.  | 170 (ii)  | Calcium hydrogen carbonate                      | anticaking agent                                                                           |
| 95.  | 352 (i)   | Calcium hydrogen malate                         | Acidity regulator                                                                          |
| 96.  | 227       | Calcium hydrogen                                | Preservative, antioxidant                                                                  |
| 97.  | 526       | Calcium hydroxide                               | acidity regulator, firming agent                                                           |
| 98.  | 916       | Calcium iodate                                  | flour treatment agent                                                                      |
| 99.  | 318       | Calcium isoascorbate                            | Antioxidant                                                                                |
| 100. | 327       | Calcium lactate                                 | acidity regulator, flour treatment agent                                                   |

|      |          |                            |                                                                                                                             |
|------|----------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 101. | 399      | Calcium lactobionate       | Stabilizer                                                                                                                  |
| 102. | 482      | Calcium lactylates         | Emulsifier, stabilizer                                                                                                      |
| 103. | 352 (ii) | Calcium malate             | Acidity regulator                                                                                                           |
| 104. | 352      | Calcium malates            | Acidity regulator                                                                                                           |
| 105. | 482 (ii) | Calcium oleyl lactylate    | Emulsifier, stabilizer                                                                                                      |
| 106. | 529      | Calcium oxide              | acidity regulator, colour retention agent                                                                                   |
| 107. | 930      | Calcium peroxide           | flour treatment agent                                                                                                       |
| 108. | 341      | Calcium phosphates         | acidity regulator, flour treatment agent, firming agent, Texturizer, raising agent, anticaking agent, water retention agent |
| 109. | 452 (iv) | Calcium polyphosphates     | Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention Agent                                |
| 110. | 282      | Calcium propionate         | Preservative                                                                                                                |
| 111. | 552      | Calcium silicate           | anticaking agent                                                                                                            |
| 112. | 203      | Calcium sorbate            | Preservative                                                                                                                |
| 113. | 486      | Calcium stearoyl fumarate  | Emulsifier                                                                                                                  |
| 114. | 482 (i)  | Calcium stearoyl lactylate | Emulsifier, stabilizer                                                                                                      |
| 115. | 516      | Calcium sulphate           | flour treatment agent, Sequestrant, firming agent                                                                           |
| 116. | 226      | Calcium sulphite           | preservative, antioxidant                                                                                                   |
| 117. | 354      | Calcium tartrate           | Acidity regulator                                                                                                           |

|      |         |                                                                         |                                                            |
|------|---------|-------------------------------------------------------------------------|------------------------------------------------------------|
| 118. | 902     | Candelilla wax                                                          | glazing agent                                              |
| 119. | 161 g   | Canthaxanthin                                                           | Colour                                                     |
| 120. | 150a    | Caramel I-plain                                                         | Colour                                                     |
| 121. | 150 b   | Caramel II-caustic sulphite process                                     | Colour                                                     |
| 122. | 150 c   | Caramel III-ammonia process                                             | Colour                                                     |
| 123. | 150 d   | Caramel IV-ammonia sulphite process                                     | Colour                                                     |
| 124. | 927 b   | Carbamide (urea)                                                        | flour treatment agent                                      |
| 125. | 152     | Carbon black (hydrocarbon)                                              | Colour                                                     |
| 126. | 290     | Carbon dioxide                                                          | carbonating agent, packing gas                             |
| 127. | 120     | Carmines                                                                | Colour                                                     |
| 128. | 903     | Carnaubawax                                                             | glazing agent                                              |
| 129. | 410     | Carob bean gum                                                          | Thickener, stabilizer                                      |
| 130. | 160a    | Carotenes                                                               | Colour                                                     |
| 131. | 407     | Carrageenan and its Na, K, NH <sub>4</sub> salts (includes furcellaran) | Thickener, gelling agent, Stabilizer                       |
| 132. | 1503    | Castor oil                                                              | release agent                                              |
| 133. | 460     | Cellulose                                                               | Emulsifier, anticaking agent, texturizer, dispersing agent |
| 134. | 925     | Chlorine                                                                | flour treatment agent                                      |
| 135. | 926     | Chlorine dioxide                                                        | flour treatment agent                                      |
| 136. | 945     | Chloropentafluoroethane                                                 | Propellant                                                 |
| 137. | 140     | Chlorophyll Copper                                                      | Colour                                                     |
| 138. | 141(i)  | Chlorophyll copper complex                                              | Colour                                                     |
| 139. | 141(ii) | Chlorophyll copper complex sodium                                       | Colour                                                     |

|      |           |                                                     |                                                |
|------|-----------|-----------------------------------------------------|------------------------------------------------|
|      |           | and potassium Salts                                 |                                                |
| 140. | 1000      | Cholic acid                                         | Emulsifier                                     |
| 141. | 1001(i)   | Choline acetate                                     | Emulsifier                                     |
| 142. | 1001(ii)  | Choline carbonate                                   | Emulsifier                                     |
| 143. | 1001(iii) | Choline chloride                                    | Emulsifier                                     |
| 144. | 1001(iv)  | Choline citrate                                     | Emulsifier                                     |
| 145. | 1001(vi)  | Choline lactate                                     | Emulsifier                                     |
| 146. | 1001      | Choline salt and esters                             | Emulsifier                                     |
| 147. | 1001(v)   | Choline tartrate                                    | Emulsifier                                     |
| 148. | 330       | Citric acid                                         | acidity regulator, Antioxidant,<br>Sequestrant |
| 149. | 472 c     | Citric and fatty acid esters of<br>glycerol         | Emulsifier, Stabilizer,<br>Sequestrant         |
| 150. | 121       | Citrus red 2                                        | Colour                                         |
| 151. | 141       | Copper chlorophylls                                 | Colour                                         |
| 152. | 468       | Croscarmellose                                      | Stabilizer, binder                             |
| 153. | 519       | Cupric sulphate                                     | colour fixative, preservative                  |
| 154. | 100(i)    | Curcumin                                            | Colour                                         |
| 155. | 100       | Curcumins                                           | Colour                                         |
| 156. | 424       | Curdlan                                             | Thickener, stabilizer                          |
| 157. | 952       | Cyclamic acid (and Na, K, Ca Salts)                 | Sweetener                                      |
| 158. | 265       | Dehydroacetic acid                                  | Preservative                                   |
| 159. | 472e      | Diacyltartaric and fatty acid esters<br>of glycerol | Emulsifier, Stabilizer,<br>Sequestrant         |
| 160. | 342(ii)   | Diammonium orthophosphate                           | acidity regulator, flour                       |

|      |            |                                |                                                                                              |
|------|------------|--------------------------------|----------------------------------------------------------------------------------------------|
|      |            |                                | treatment agent                                                                              |
| 161. | 450 (vi)   | Dicalcium diphosphate          | Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention Agent |
| 162. | 341(ii)    | Dicalcium orthophosphate       | acidity regulator, flour treatment agent, firming agent, Texturizer                          |
| 163. | 940        | Dichlorodifluoromethane        | Propellant, liquid freezant                                                                  |
| 164. | 389        | Dilauryl thiodipropionate      | Antioxidant                                                                                  |
| 165. | 450 (viii) | Dimagnesium diphosphate        | emulsifier raising agent, stabilizer sequestrant, acidity regulator, water retention agent   |
| 166. | 343(ii)    | Dimagnesium                    | acidity regulator, anticaking Agent                                                          |
| 167. | 242        | Dimethyl dicarbonate           | Preservative                                                                                 |
| 168. | 480        | Diethyl sodium sulphosuccinate | Emulsifier, wetting agent                                                                    |
| 169. | 230        | Diphenyl                       | Preservative                                                                                 |
| 170. | 450        | Diphosphates                   | Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention Agent |
| 171. | 628        | Dipotassium 5'-guanylate       | flavour enhancer                                                                             |
| 172. | 450(iv)    | Dipotassium diphosphate        | Emulsifier, Stabilizer, acidity, regulator, raising agent,                                   |

|      |         |                                         |                                                                                              |
|------|---------|-----------------------------------------|----------------------------------------------------------------------------------------------|
|      |         |                                         | Sequestrant, water retention Agent                                                           |
| 173. | 340(ii) | Dipotassium orthophosphate              | acidity regulator texturizer, sequestrant, stabilizer, emulsifier water retention agent      |
| 174. | 336(ii) | Dipotassium tartrate                    | Stabilizer, sequestrant                                                                      |
| 175. | 627     | Disodium 5'-guanylate                   | flavour enhancer                                                                             |
| 176. | 631     | Disodium 5'-inosinate                   | flavour enhancer                                                                             |
| 177. | 635     | Disodium 5'-ribonucleotides             | flavour enhancer                                                                             |
| 178. | 450(i)  | Disodium diphosphate                    | Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention Agent |
| 179. | 386     | Disodium ethylene-diamine-tetra-acetate | Antioxidant, Preservative, Sequestrant                                                       |
| 180. | 331(ii) | Disodium monohydrogen citrate           | acidity regulator, stabilizer, Sequestrant, emulsifier                                       |
| 181. | 339(ii) | Disodium orthophosphate                 | acidity regulator, Sequestrant, emulsifier, Texturizer, Stabilizer, water retention agent    |
| 182. | 335(ii) | Disodium tartrate                       | Stabilizer, sequestrant                                                                      |
| 183. | 364(ii) | Disodium succinate                      | acidity regulator, flavour Enhancer                                                          |
| 184. | 390     | Distearyl thiodipropionate              | Antioxidant                                                                                  |

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| 185. | 639      | DL-Alanine                         | flavour enhancer                                                      |
| 186. | 312      | Dodecyl gallate                    | Antioxidant                                                           |
| 187. | 968      | Erythritol                         | Sweetener, flavour enhancer,<br>Humectant                             |
| 188. | 127      | Erythrosine                        | Colour                                                                |
| 189. | 488      | Ethoxylated mono-and di-glycerides | Emulsifier                                                            |
| 190. | 324      | Ethoxyquin                         | Antioxidant                                                           |
| 191. | 462      | Ethyl cellulose                    | Binder, filler                                                        |
| 192. | 313      | Ethyl gallate                      | Antioxidant                                                           |
| 193. | 467      | Ethyl hydroxyethyl cellulose       | Thickener, emulsifier,<br>stabilizer                                  |
| 194. | 637      | Ethyl maltol                       | flavour enhancer                                                      |
| 195. | 214      | Ethyl-p-hydroxybenzoate            | Preservative                                                          |
| 196. | 143      | Fast green FCF                     | Colour                                                                |
| 197. | 570      | Fatty acids                        | foam stabilizer, glazing agent,<br>antifoaming agent                  |
| 198. | 381      | Ferric ammonium citrate            | anticaking agent                                                      |
| 199. | 505      | Ferrous carbonate                  | Acidity regulator                                                     |
| 200. | 579      | Ferrous gluconate                  | Colour retention agent                                                |
| 201. | 537      | Ferrous hexacyanomanganate         | anticaking agent                                                      |
| 202. | 585      | Ferrous lactate                    | Colour retention agent                                                |
| 203. | 1101(iv) | Ficin                              | flour treatment agent,<br>stabilizer,<br>tenderizer, flavour enhancer |
| 204. | 161a     | Flavoxanthin                       | Colour                                                                |
| 205. | 240      | Formaldehyde                       | Preservative                                                          |

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| 206. | 236      | Formic acid                                                 | Preservative                         |
| 207. | 297      | Fumaric acid                                                | Acidity regulator                    |
| 208. | 458      | Gamma Cyclodextrin                                          | Stabilizer, binder                   |
| 209. | 164      | Gardenia yellow                                             | Colour                               |
| 210. | 418      | Gellan gum                                                  | Thickener, stabilizer, gelling Agent |
| 211. | 574      | Gluconic acid (D-)                                          | acidity regulator, raising agent     |
| 212. | 575      | Glucono delta-lactone                                       | acidity regulator, raising agent     |
| 213. | 1102     | Glucose oxidase                                             | Antioxidant                          |
| 214. | 620      | Glutamic acid (L(+)-)                                       | flavour enhancer                     |
| 215. | 422      | Glycerol                                                    | Humectant, bodying agent             |
| 216. | 445      | Glycerol esters of wood resin                               | Emulsifier, stabilizer               |
| 217. | 915      | Glycerol-, methyl-, or penta-erithrytol esters of colophane | Glazing agent                        |
| 218. | 640      | Glycine                                                     | Flavour modifier                     |
| 219. | 958      | Glycyrrhizin                                                | Sweetener, flavour enhancer          |
| 220. | 175      | Gold                                                        | Colour                               |
| 221. | 163 (ii) | Grape skin extract                                          | Colour                               |
| 222. | 142      | Green S                                                     | Colour                               |
| 223. | 314      | Guaiac resin                                                | Antioxidant                          |
| 224. | 626      | Guanlic acid                                                | flavour enhancer                     |
| 225. | 412      | Guar gum                                                    | Thickener, stabilizer                |
| 226. | 414      | Gum arabic (acacia gum)                                     | Thickener, stabilizer                |
| 227. | 419      | Gum ghatti                                                  | Thickener, stabilizer, emulsifier    |
| 228. | 241      | Gum guaicum                                                 | Preservative                         |

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| 229. | 939      | Helium                         | packing gas                                                  |
| 230. | 209      | Heptyl-p-hydroxybenzoate       | Preservative                                                 |
| 231. | 239      | Hexamethylene tetramine        | Preservative                                                 |
| 232. | 507      | Hydrochloric acid              | Acidity regulator                                            |
| 233. | 907      | Hydrogenated poly-1-decene     | glazing agent                                                |
| 234. | 463      | Hydroxypropyl cellulose        | Thickener, Emulsifier,<br>Stabilizer                         |
| 235. | 464      | Hydroxypropyl methyl cellulose | Thickener, Emulsifier,<br>Stabilizer                         |
| 236. | 132      | Indigotine                     | Colour                                                       |
| 237. | 630      | Inosinic acid                  | flavour enhancer                                             |
| 238. | 1103     | Invertases                     | Stabilizer                                                   |
| 239. | 172 (i)  | Iron oxide, black              | Colour                                                       |
| 240. | 172(ii)  | Iron oxide, red                | Colour                                                       |
| 241. | 172(iii) | Iron oxide, yellow             | Colour                                                       |
| 242. | 172      | Iron oxides                    | Colour                                                       |
| 243. | 315      | Isoascorbic acid               | Antioxidant                                                  |
| 244. | 943b     | Isobutane                      | Propellant                                                   |
| 245. | 953      | Isomalt (isomaltitol)          | Sweetener, anticaking agent,<br>bulking agent, glazing agent |
| 246. | 384      | Isopropyl citrates             | Antioxidant, Preservative,<br>Sequestrant                    |
| 247. | 416.     | Karaya gum                     | Thickener, stabilizer                                        |
| 248. | 425      | Lonjac flour                   | Thickener                                                    |
| 249. | 161c     | Kryptoxanthin                  | Colour                                                       |

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| 250. | 920    | L-Cysteine and its hydrochlorides-sodium and potassium salts  | flour treatment agent                                       |
| 251. | 921    | L-Cysteine and its hydrochlorides-sodium and potassium salts  | flour treatment agent                                       |
| 252. | 641    | L-Leucine                                                     | flavour modifier.                                           |
| 253. | 270    | Lactic acid (L-, D- and DL-)                                  | Acidity regulator                                           |
| 254. | 472b   | Lactic and fatty acid esters of glycerol                      | Emulsifier, stabilizer,                                     |
| 255. | 966    | Lactitol                                                      | Sweetener, texturizer                                       |
| 256. | 478    | Lactylated fatty acid esters of glycerol and propylene glycol | Emulsifier                                                  |
| 257. | 913    | Lanolin                                                       | glazing agent                                               |
| 258. | 344    | Lecithin citrate                                              | Preservative                                                |
| 259. | 322    | Lecithins                                                     | Antioxidant, emulsifier                                     |
| 260. | 1104   | Upases                                                        | flavour enhancer                                            |
| 261. | 180    | Lithol rubine BK                                              | Colour                                                      |
| 262. | 161b   | Lutein                                                        | Colour                                                      |
| 263. | 160d   | Lucopene                                                      | Colour                                                      |
| 264. | 642    | Lysin hydrochloride                                           | flavour enhancer                                            |
| 265. | 1105   | Lysozyme                                                      | Preservative                                                |
| 266. | 504(i) | Magnesium carbonate                                           | acidity regulator, anticaking agent, colour retention agent |
| 267. | 504    | Magnesium carbonates                                          | acidity regulator, anticaking agent, colour retention agent |
| 268. | 511    | Magnesium chloride                                            | firming agent                                               |

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| 269. | 345     | Magnesium citrate            | Acidity regulator                                           |
| 270. | 580     | Magnesium gluconate          | acidity regulator, firming agent                            |
| 271. | 625     | Magnesium glutamate          | flavour enhancer                                            |
| 272. | 504(ii) | Magnesium hydrogen carbonate | acidity regulator, anticaking agent, colour retention agent |
| 273. | 528     | Magnesium hydroxide          | acidity regulator, colour retention agent                   |
| 274. | 329     | Magnesium lactate (D-, L-)   | acidity regulator, flour treatment agent                    |
| 275. | 530     | Magnesium oxide              | anticaking agent                                            |
| 276. | 343     | Magnesium phosphates         | acidity regulator, anticaking Agent                         |
| 277. | 553(i)  | Magnesium silicate           | anticaking agent, dusting Powder                            |
| 278. | 553     | Magnesium Silicates          | anticaking agent, dusting Powder                            |
| 279. | 518     | Magnesium sulphate           | firming agent                                               |
| 280. | 553(ii) | Magnesium trisilicate        | anticaking agent, dusting Powder                            |
| 281. | 296     | Malic acid (D-,L-)           | acidity regulator, flavouring Agent                         |
| 282. | 965     | Maltitol and maltitol Syrup  | Sweetener, Stabilizer, Emulsifier                           |
| 283. | 636     | Maltol                       | flavour enhancer                                            |
| 284. | 130     | Manascorubin                 | Colour                                                      |

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| 285. | 421       | Mannitol                                                    | Sweetener, anticaking agent                                               |
| 286. | 353       | Metatartaric acid                                           | Acidity regulator                                                         |
| 287. | 461       | Methyl cellulose                                            | Thickener, Emulsifier,<br>Stabilizer                                      |
| 288. | 911       | Methyl esters of fatty acids                                | glazing agent                                                             |
| 289. | 465       | Methyl ethyl cellulose                                      | Thickener, Emulsifier,<br>stabilizer, antifoaming agent                   |
| 290. | 489       | Methyl glucoside-coconut oil ester                          | Emulsifier                                                                |
| 291. | 218       | Methyl p-hydroxybenzoate                                    | Preservative                                                              |
| 292. | 900 b     | Methylphenylpolysiloxane                                    | antifoaming agent                                                         |
| 293. | 460(i)    | Microcrystalline cellulose                                  | Emulsifier, anticaking agent,<br>texturizer, dispersing agent             |
| 294. | 905 c (i) | Microcrystalline wax                                        | glazing agent                                                             |
| 295. | 905a      | Mineral oil, food grade                                     | glazing agent, release agent,<br>sealing agent                            |
| 296. | 472 f     | Mixed tartaric, acetic and fatty acid<br>esters of glycerol | Emulsifier, Stabilizer,<br>Sequestrant                                    |
| 297. | 306       | Mixed tocopherols concentrate                               | Antioxidant                                                               |
| 298. | 471       | Mono-and di-glycerides of fatty<br>acids                    | Emulsifier, stabilizer                                                    |
| 299. | 624       | Monoammonium glutamate                                      | flavour enhancer                                                          |
| 300. | 342 (i)   | Monoammonium orthophosphate                                 | acidity regulator, flour<br>treatment agent                               |
| 301. | 341 (i)   | Monocalcium orthophosphate                                  | acidity regulator, texturizer,<br>flour treatment agent, raising<br>Agent |

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| 302. | 343 (i)   | Monomagnesium orthophosphate   | acidity regulator, anticaking Agent                                                     |
| 303. | 622       | Monopotassium glutamate        | flavour enhancer                                                                        |
| 304. | 340 (i)   | Monopotassium orthophosphate   | acidity regulator texturizer, sequestrant stabilizer, emulsifier, water retention Agent |
| 305. | 336 (i)   | Monopotassium tartrate         | Stabilizer, sequestrant                                                                 |
| 306. | 621       | Monosodium glutamate           | flavour enhancer                                                                        |
| 307. | 339 (i)   | Monosodium orthophosphate      | acidity regulator texturizer, sequestrant stabilizer, emulsifier, water retention Agent |
| 308. | 364 (i)   | Monosodium succinate           | acidity regulator, flavour Enhancer                                                     |
| 309. | 335 (i)   | Monosodium tartrate            | Stabilizer, sequestrant                                                                 |
| 310. | 160a (ii) | Natural extracts               | Colour                                                                                  |
| 311. | 959       | Neohesperidine dihydrochalcone | Sweetener                                                                               |
| 312. | 375       | Nicotinic acid                 | Colour retention agent                                                                  |
| 313. | 234       | Nisin                          | Preservative                                                                            |
| 314. | 941       | Nitrogen                       | packing gas, freezant                                                                   |
| 315. | 918       | Nitrogen oxides                | flour treatment agent                                                                   |
| 316. | 919       | Nitrosyl chloride              | flour treatment agent                                                                   |
| 317. | 942       | Nitrous oxide                  | Propellant                                                                              |
| 318. | 411       | Oat gum                        | Thickener, stabilizer                                                                   |
| 319. | 946       | Octafluorocyclobutane          | Propellant                                                                              |

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| 320. | 311        | Octyl gallate                | Antioxidant                                               |
| 321. | 182        | Orchil                       | Colour                                                    |
| 322. | 231        | Ortho-phenylphenol           | Preservative                                              |
| 323. | 338        | Orthophosphoric acid         | acidity regulator, antioxidant,<br>Synergist              |
| 324. | 948        | Oxygen                       | packing gas                                               |
| 325. | 387        | Oxy stearin                  | Antioxidant, sequestrant                                  |
| 326. | 1101(ii)   | Papain                       | flour treatment agent,<br>Stabilizer, tenderizer, flavour |
| 327. | 160c       | Paprika oleoresins           | Colour                                                    |
| 328. | 905 c (ii) | Paraffin wax                 | glazing agent                                             |
| 329. | 131        | Patent blue V                | Colour                                                    |
| 330. | 440        | Pectins                      | Thickener, Stabilizer, gelling<br>Agent                   |
| 331. | 451 (ii)   | Pentapotassium triphosphate  | Sequestrant, acidity regulator,<br>Texturizer             |
| 332. | 451 (i)    | Pentasodium triphosphate     | Sequestrant, acidity regulator,<br>Texturizer             |
| 333. | 429        | Peptones                     | Emulsifier                                                |
| 334. | 905 b      | Petrolatum (petroleum jelly) | glazing agent, release agent,<br>sealing agent            |
| 335. | 905 c      | Petroleum wax                | glazing agent, release agent,<br>sealing agent            |
| 336. | 391        | Phytic acid                  | Antioxidant                                               |
| 337. | 235        | Pimaricin (natamycin)        | Preservative                                              |

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| 338. | 1200 | Polydextroses A and N                                  | bulking agent, Stabilizer, thickener, Humectant, texturizer                                  |
| 339. | 990a | Polydimethylsiloxane                                   | antifoaming agent, anticaking agent, emulsifier                                              |
| 340. | 1521 | Polyethylene glycol                                    | antifoaming agent                                                                            |
| 341. | 475  | Polyglycerol esters of fatty acids                     | Emulsifier                                                                                   |
| 342. | 476  | Polyglycerol esters of interesterified Ricinoleic acid | Emulsifier                                                                                   |
| 343. | 964  | Polyglycitol syrup                                     | Sweetener                                                                                    |
| 344. | 432  | Polyoxyethylene (20) sorbitan monolaurate              | Emulsifier, dispersing agent                                                                 |
| 345. | 433  | Polyoxyethylene (20) sorbitan Mono-oleate              | Emulsifier, dispersing agent                                                                 |
| 346. | 434  | Polyoxyethylene (20) sorbitan monopalmitate            | Emulsifier, dispersing agent                                                                 |
| 347. | 435  | Polyoxyethylene (20) sorbitan monostearate             | Emulsifier, dispersing agent                                                                 |
| 348. | 436  | Polyoxyethylene (20) sorbitan tristearate              | Emulsifier, dispersing agent                                                                 |
| 349. | 431  | Polyoxyethylene (40) stearate                          | Emulsifier                                                                                   |
| 350. | 430  | Polyoxyethylene (8) stearate                           | Emulsifier                                                                                   |
| 351. | 452  | Polyphosphates                                         | Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention Agent |

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| 352. | 1202     | Polyvinylpolypyrrolidone     | colour stabilizer, Colloidal, Stabilizer                      |
| 353. | 1201     | Polyvinylpyrrolidone         | bodying agent, Stabilizer, clarifying agent, dispersing Agent |
| 354. | 124      | Ponceau 4R                   | Colour                                                        |
| 355. | 125      | Ponceau SX                   | Colour                                                        |
| 356. | 261 (i)  | Potassium acetate            | Preservative, acidity regulator                               |
| 357. | 261      | Potassium acetates           | Preservative, acidity regulator                               |
| 358. | 357      | Potassium adipates           | Acidity regulator                                             |
| 359. | 402      | Potassium alginate           | Thickener, stabilizer                                         |
| 360. | 555      | Potassium aluminium silicate | anticaking agent                                              |
| 361. | 303      | Potassium ascorbate          | Antioxidant                                                   |
| 362. | 212      | Potassium benzoate           | Preservative                                                  |
| 363. | 228      | Potassium bisulphite         | Preservative, antioxidant                                     |
| 364. | 924 a    | Potassium bromate            | flour treatment agent                                         |
| 365. | 501 (i)  | Potassium carbonate          | acidity regulator, stabilizer                                 |
| 366. | 501      | Potassium carbonates         | acidity regulator, stabilizer                                 |
| 367. | 508      | Potassium chloride           | Gelling agent                                                 |
| 368. | 332      | Potassium citrates           | acidity regulator, Sequestrant, Stabilizer                    |
| 369. | 261 (ii) | Potassium diacetate          | Preservative, acidity regulator                               |
| 370. | 332 (i)  | Potassium dihydrogen citrate | acidity regulator, Sequestrant, Stabilizer                    |
| 371. | 536      | Potassium ferrocyanide       | anticaking agent                                              |

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| 372. | 366      | Potassium fumarates          | Acidity regulator                                                                                     |
| 373. | 577      | Potassium gluconate          | Sequestrant                                                                                           |
| 374. | 501 (ii) | Potassium hydrogen carbonate | acidity regulator, stabilizer                                                                         |
| 375. | 351 (i)  | Potassium hydrogen malate    | Acidity regulator                                                                                     |
| 376. | 525      | Potassium hydroxide          | Acidity regulator                                                                                     |
| 377. | 632      | Potassium Inosate            | flavour enhancer                                                                                      |
| 378. | 917      | Potassium iodate             | flour treatment agent                                                                                 |
| 379. | 317      | Potassium isoascorbate       | Antioxidant                                                                                           |
| 380. | 326      | Potassium lactate            | Antioxidant, synergist, acidity<br>Regulator                                                          |
| 381. | 351 (ii) | Potassium malate             | Acidity regulator                                                                                     |
| 382. | 351      | Potassium malates            | Acidity regulator                                                                                     |
| 383. | 224      | Potassium metabisulphite     | Preservative, antioxidant                                                                             |
| 384. | 252      | Potassium nitrate            | Preservative, colour fixative                                                                         |
| 385. | 249      | Potassium nitrite            | Preservative, colour fixative                                                                         |
| 386. | 922      | Potassium persulphate        | flour treatment agent                                                                                 |
| 387. | 340      | Potassium phosphates         | acidity regulator, Sequestrant,<br>emulsifier, Texturizer,<br>Stabilizer, water retention<br>agent    |
| 388. | 452 (ii) | Potassium polyphosphate      | Emulsifier, Stabilizer, acidity<br>regulator, raising agent,<br>Sequestrant, water retention<br>Agent |
| 389. | 283      | Potassium propionate         | Preservative                                                                                          |
| 390. | 560      | Potassium silicate           | anticaking agent                                                                                      |

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| 391. | 337      | Potassium sodium tartrate              | Stabilizer, sequestrant                                         |
| 392. | 202      | Potassium sorbate                      | Preservative                                                    |
| 393. | 515      | Potassium sulphates                    | Acidity regulator                                               |
| 394. | 225      | Potassium sulphite                     | Preservative, antioxidant                                       |
| 395. | 336      | Potassium tartrates                    | Stabilizer, sequestrant                                         |
| 396. | 460 (ii) | Powdered cellulose                     | Emulsifier, anticaking agent, texturizer, dispersing agent      |
| 397. | 407 a    | Processed Euchema seaweed              | Thickener, stabilizer                                           |
| 398. | 944      | Propane                                | Propellant                                                      |
| 399. | 280      | Propionic acid                         | Preservative                                                    |
| 400. | 310      | Propyl gallate                         | Antioxidant                                                     |
| 401. | 216      | Propyl p-hydroxybenzoate               | Preservative                                                    |
| 402. | 1520     | Propylene glycol                       | Humectant, wetting agent, dispersing agent                      |
| 403. | 405      | Propylene glycol alginate              | Thickener, emulsifier                                           |
| 404. | 477      | Propylene glycol esters of fatty acids | Emulsifier                                                      |
| 405. | 1101 (i) | Protease                               | flour treatment agent, Stabilizer, tenderizer, flavour Enhancer |
| 406. | 1101     | Proteases                              | flour treatment agent, Stabilizer, tenderizer, flavour Enhancer |
| 407. | 999      | Quillaia extracts                      | foaming agent                                                   |
| 408. | 104      | Quinoline yellow                       | Colour                                                          |

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| 409. | 128      | Red 2G                                                                  | Colour                                       |
| 410. | 161 f    | Rhodoxanthin                                                            | Colour                                       |
| 411. | 101 (i)  | Riboflavin                                                              | Colour                                       |
| 412. | 101 (ii) | Riboflavin 5' -phosphate, sodium                                        | Colour                                       |
| 413. | 101      | Riboflavins                                                             | Colour                                       |
| 414. | 908      | Rice bran wax                                                           | glazing agent                                |
| 415. | 161 d    | Rubixanthin                                                             | Colour                                       |
| 416. | 954      | Saccharin (and Na, K, Ca salts)                                         | Sweetener                                    |
| 417. | 470      | Salts of fatty acids (with base Al, Ca, Na, Mg, K and NH <sub>4</sub> ) | Emulsifier, Stabilizer, anti caking agent    |
| 418. | 166      | Sandalwood                                                              | Colour                                       |
| 419. | 904      | Shellac                                                                 | glazing agent                                |
| 420. | 551      | Silicon dioxide, amorphous                                              | anticaking agent                             |
| 421. | 174      | Silver                                                                  | Colour                                       |
| 422. | 262 (i)  | Sodium acetate                                                          | Preservative, acidity regulator, Sequestrant |
| 423. | 262      | Sodium acetates                                                         | Preservative, acidity regulator, Sequestrant |
| 424. | 356      | Sodium adipates                                                         | Acidity regulator                            |
| 425. | 401      | Sodium alginate                                                         | Thickener, Stabilizer, gelling Agent         |
| 426. | 541      | Sodium aluminium phosphate                                              | acidity regulator, emulsifier                |
| 427. | 541 (i)  | Sodium aluminium phosphate-acidic                                       | acidity regulator, emulsifier                |
| 428. | 541 (ii) | Sodium aluminium phosphate-basic                                        | acidity regulator, emulsifier                |

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| 429. | 554       | Sodium alumino-silicate                                    | anticaking agent                                                                             |
| 430. | 301       | Sodium ascorbate                                           | Antioxidant                                                                                  |
| 431. | 211       | Sodium benzoate                                            | Preservative                                                                                 |
| 432. | 452 (iii) | Sodium calcium polyphosphate                               | Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention Agent |
| 433. | 500(i)    | Sodium carbonate                                           | acidity regulator, raising agent, anticaking agent                                           |
| 434. | 500       | Sodium carbonates                                          | acidity regulator, raising agent, anticaking agent                                           |
| 435. | 466       | Sodium carboxymethyl cellulose                             | Thickener, Emulsifier, Stabilizer                                                            |
| 436. | 469       | Sodium carboxymethyl, cellulose, enzymatically, hydrolysed | Thickener, stabilizer                                                                        |
| 437. | 331       | Sodium citrates                                            | acidity regulator, Sequestrant, emulsifier, stabilizer                                       |
| 438. | 266       | Sodium dehydroacetate                                      | Preservative                                                                                 |
| 439. | 262 (ii)  | Sodium diacetate                                           | Preservative, acidity regulator, Sequestrant                                                 |
| 440. | 331 (i)   | Sodium dihydrogen citrate                                  | acidity regulator, Sequestrant, emulsifier, stabilizer                                       |
| 441. | 215       | Sodium ethyl p-hydroxybenzoate                             | Preservative                                                                                 |
| 442. | 535       | Sodium ferrocyanide                                        | anticaking agent                                                                             |

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| 443. | 237      | Sodium formate                  | Preservative                                          |
| 444. | 365      | Sodium fumarates                | Acidity regulator                                     |
| 445. | 576      | Sodium gluconate                | Sequestrant                                           |
| 446. | 500 (ii) | Sodium hydrogen carbonate       | acidity regulator, raising agent,<br>anticaking agent |
| 447. | 350 (i)  | Sodium hydrogen malate          | acidity regulator, humectant                          |
| 448. | 222      | Sodium hydrogen sulphite        | Preservative, antioxidant                             |
| 449. | 524      | Sodium hydroxide                | Acidity regulator                                     |
| 450. | 316      | Sodium isoascorbate             | Antioxidant                                           |
| 451. | 638      | Sodium L-Aspartate              | flavour enhancer                                      |
| 452. | 325      | Sodium lactate                  | antioxidant synergist,<br>Humectant, bulking agent    |
| 453. | 481      | Sodium lactylates               | Emulsifier, stabilizer                                |
| 454. | 487      | Sodium laurylsulphate           | Emulsifier                                            |
| 455. | 350 (ii) | Sodium malate                   | acidity regulator, humectant                          |
| 456. | 350      | Sodium malates                  | acidity regulator, humectant                          |
| 457. | 223      | Sodium metabisulphite           | Preservative, bleaching agent,<br>Antioxidant         |
| 458. | 550 (ii) | Sodium metasilicate             | anticaking agent                                      |
| 459. | 219      | Sodium methyl p-hydroxybenzoate | Preservative                                          |
| 460. | 251      | Sodium nitrate                  | Preservative, colour fixative                         |
| 461. | 250      | Sodium nitrite                  | Preservative, colour fixative                         |
| 462. | 232      | Sodium o-phenylphenol           | Preservative                                          |
| 463. | 481 (ii) | Sodium oleyl lactylate          | Emulsifier, stabilizer                                |
| 464. | 339      | Sodium phosphates               | acidity regulator, Sequestrant,                       |

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|      |           |                                 | emulsifier, Texturizer,<br>Stabilizer, water retention agent                                 |
| 465. | 452 (i)   | Sodium polyphosphate            | Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention Agent |
| 466. | 281       | Sodium propionate               | Preservative                                                                                 |
| 467. | 217       | Sodium propyl p-hydroxybenzoate | Preservative                                                                                 |
| 468. | 500 (iii) | Sodium sesquicarbonate          | acidity regulator, raising agent, anticaking agent                                           |
| 469. | 550 (i)   | Sodium silicate                 | anticaking agent                                                                             |
| 470. | 550       | Sodium silicates                | anticaking agent                                                                             |
| 471. | 201       | Sodium sorbate                  | Preservative                                                                                 |
| 472. | 485       | Sodium stearoyl fumarate        | Emulsifier                                                                                   |
| 473. | 481 (i)   | Sodium stearoyl lactylate       | Emulsifier, stabilizer                                                                       |
| 474. | 514       | Sodium sulphates                | Acidity regulator                                                                            |
| 475. | 221       | Sodium sulphite                 | Preservative, antioxidant                                                                    |
| 476. | 335       | Sodium tartrates                | Stabilizer, sequestrant                                                                      |
| 477. | 539       | Sodium thiosulphate             | Antioxidant, sequestrant                                                                     |
| 478. | 200       | Sorbic acid                     | Preservative                                                                                 |
| 479. | 493       | Sorbitan monolaurate            | Emulsifier                                                                                   |
| 480. | 494       | Sorbitan mono-oleate            | Emulsifier                                                                                   |
| 481. | 495       | Sorbitan monopalmitate          | Emulsifier                                                                                   |
| 482. | 491       | Sorbitan monostearate           | Emulsifier                                                                                   |

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|------|------|------------------------------------------------|-----------------------------------------------------------------|
| 483. | 496  | Sorbitan trioleate                             | Stabilizer, emulsifier                                          |
| 484. | 492  | Sorbitan tristearate                           | Emulsifier                                                      |
| 485. | 420  | Sorbitol and sorbitol syrup                    | Sweetener, Humectant,<br>sequestrant, Texturizer,<br>Emulsifier |
| 486. | 909  | Spermacetic wax                                | glazing agent                                                   |
| 487. | 512  | Stannous chloride                              | Antioxidant, colour retention<br>agent                          |
| 488. | 484  | Stearyl citrate                                | Emulsifier, sequestrant                                         |
| 489. | 483  | Stearyl tartrate                               | flour treatment agent                                           |
| 490. | 960  | Stevioside                                     | Sweetener                                                       |
| 491. | 363  | Succinic acid                                  | Acidity regulator                                               |
| 492. | 472g | Succinylated monoglycerides                    | Emulsifier, Stabilizer,<br>Sequestrant                          |
| 493. | 446  | Succi stearin                                  | Emulsifier                                                      |
| 494. | 955  | Sucralose                                      | Sweetener                                                       |
| 495. | 474  | Sucroglycerides                                | Emulsifier                                                      |
| 496. | 444  | Sucrose acetate isobutyrate                    | Emulsifier, stabilizer                                          |
| 497. | 473  | Sucrose esters of fatty acids                  | Emulsifier                                                      |
| 498. | 220  | Sulphur dioxide                                | Preservative, antioxidant                                       |
| 499. | 513  | Sulphuric acid                                 | acidity regulator                                               |
| 500. | 110  | Sunset yellow FCF                              | colour                                                          |
| 501. | 441  | Superglycerinated hydrogenated<br>rapeseed oil | Emulsifier                                                      |
| 502. | 309  | Synthetic delta-tocopherol                     | Antioxidant                                                     |
| 503. | 308  | Synthetic gamma-tocopherol                     | Antioxidant                                                     |

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|------|-----------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 504. | 553 (iii) | Talc                                                                        | anticaking agent, dusting powder                                                              |
| 505. | 181       | Tannins, food grade                                                         | Colour, Emulsifier, Stabilizer, thickener                                                     |
| 506. | 417       | Tara gum                                                                    | Thickener, stabilizer                                                                         |
| 507. | 334       | Tartaric acid (L(+)-)                                                       | acidity regulator, Sequestrant, antioxidant synergist                                         |
| 508. | 472 d     | Tartaric acid esters of mono and di-glycerides of fatty acids               | Emulsifier, Stabilizer, sequestrant                                                           |
| 509. | 102       | Tartrazine                                                                  | Colour                                                                                        |
| 510. | 319       | Tertiary butylhydroquinone                                                  | antioxidant                                                                                   |
| 511. | 450(v)    | Tetrapotassium diphosphate                                                  | emulsifier, raising agent, stabilizer sequestrant, acidity regulator, water retention agent   |
| 512  | 450 (iii) | Tetrasodium diphosphate                                                     | Emulsifier, Stabilizer, acidity regulator, raising agent, Seque-strant, water retention agent |
| 513. | 957       | Thaumatococin                                                               | Sweetener, flavour enhancer emulsifier                                                        |
| 514. | 479       | Thermally oxidized soya bean oil with mono-and di-glycerides of fatty acids | Emulsifier                                                                                    |
| 515. | 233       | Thiabendazole                                                               | Preservative                                                                                  |
| 516. | 388       | Thiodipropionic acid                                                        | antioxidant                                                                                   |
| 517. | 171       | Titanium dioxide                                                            | Colour                                                                                        |
| 518. | 413       | Tragacanth gum                                                              | Thickener, Stabilizer, emulsifier                                                             |
| 519. | 1518      | Triacetin                                                                   | Humectant                                                                                     |

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|------|-----------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 520. | 341 (iii) | Tricalcium orthophosphate   | acidity regulator, texturizer, flour treatment agent, raising agent, firming agent, anticaking agent, water retention agent |
| 521. | 1505      | Triethyl citrate            | foam stabilizer                                                                                                             |
| 522. | 343 (iii) | Trimagnesium orthophosphate | acidity regulator, anticaking Agent                                                                                         |
| 523. | 451       | Tri phosphates              | Sequestrant, acidity regulator, Texturizer                                                                                  |
| 524. | 332 (ii)  | Tripotassium citrate        | acidity regulator, Sequestrant, Stabilizer                                                                                  |
| 525. | 340 (iii) | Tripotassium orthophosphate | acidity regulator, texturizer, sequestrant stabilizer, Emulsifier, water retention Agent                                    |
| 526. | 331 (ii)  | Trisodium citrate           | acidity regulator, Sequestrant, emulsifier, Stabilizer                                                                      |
| 527. | 450 (ii)  | Trisodium diphosphate       | Emulsifier, Stabilizer, acidity regulator, raising agent, Sequestrant, water retention Agent                                |
| 528. | 339 (iii) | Trisodium orthophosphate    | acidity regulator, Sequestrant, emulsifier, Texturizer, Stabilizer, water retention agent                                   |
| 529. | 100 (ii)  | Turmeric                    | Colour                                                                                                                      |
| 530. | 153       | Vegetable carbon            | Colour                                                                                                                      |

|                                             |       |                                                                                                     |                                                         |
|---------------------------------------------|-------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 531.                                        | 161 e | Violoxanthin                                                                                        | Colour                                                  |
| 532.                                        | 910   | Wax esters                                                                                          | glazing agent                                           |
| 533.                                        | 415   | Xanthan gum                                                                                         | Thickener, stabilizer                                   |
| 534.                                        | 967   | Xylitol                                                                                             | Sweetener, Humectant, stabilizer, Emulsifier, thickener |
| 535.                                        | 107   | Yellow 2G                                                                                           | Colour                                                  |
| 536.                                        | 557   | Zinc silicate                                                                                       | anticaking agent                                        |
| <b>Supplementary List-Modified Starches</b> |       |                                                                                                     |                                                         |
| 537.                                        | 1422  | Acetylated di-starch adipate                                                                        | Stabilizer, thickener, binder                           |
| 538.                                        | 1423  | Acetylated distarch glycerol                                                                        | Stabilizer, thickener                                   |
| 539.                                        | 1414  | Acetylated distarch phosphate                                                                       | Emulsifier, thickener                                   |
| 540.                                        | 1401  | Acid-treated starch                                                                                 | Stabilizer, thickener, binder                           |
| 541.                                        | 1402  | Alkaline treated starch                                                                             | Stabilizer, thickener, binder                           |
| 542.                                        | 1403  | Bleached starch                                                                                     | Stabilizer, thickener, binder                           |
| 543.                                        | 1400  | Dextrins roasted starch white and yellow                                                            | Stabilizer, thickener, binder                           |
| 544.                                        | 1411  | Di-starch glycerol                                                                                  | Stabilizer, thickener, binder                           |
| 545.                                        | 1412  | Di-starch phosphate esterified with sodium trimetaphosphate; esterified with phosphorus oxychloride | Stabilizer, thickener, binder                           |
| 546.                                        | 1443  | Hydroxypropyl di-starch glycerol                                                                    | Stabilizer, thickener                                   |
| 547.                                        | 1442  | Hydroxypropyl di-starch phosphate                                                                   | Stabilizer, thickener                                   |
| 548.                                        | 1440  | Hydroxypropyl starch                                                                                | Emulsifier, thickener, binder                           |
| 549.                                        | 1410  | Monostarch phosphate                                                                                | Stabilizer, thickener, binder                           |
| 550.                                        | 1404  | Oxidized starch                                                                                     | Emulsifier, thickener, binder                           |

|      |      |                                                 |                                |
|------|------|-------------------------------------------------|--------------------------------|
| 551. | 1413 | Phosphated di-starch phosphate                  | Stabilizer, thickener, binder  |
| 552. | 1420 | Starch acetate esterified with acetic anhydride | Stabilizer, thickener          |
| 553. | 1421 | Starch acetate esterified with vinyl acetate    | Stabilizer, thickener          |
| 554. | 1450 | Starch sodium octenyl succinate                 | Stabilizer, thickener, binder, |
| 555. | 1405 | Starches, enzyme-treated                        | thickener                      |