18. ANNEX I: LISTS OF FLAVOURINGS AND NON-FLAVOURING FLAVOUR INGREDIENTS

18.1 Global Reference List of Flavourings – See also Chapter 5.

The inclusion of flavouring substances and natural flavouring complexes in the IOFI Global Reference List (GRL) is based on their evaluation in a robust safety evaluation process resulting in a determination that they are safe under the conditions of intended use. Generally, materials that have been included in the IOFI GRL have been reviewed and determined to be safe for flavour use by the European Food Safety Authority (EFSA), the Council of Europe (CoE), the Scientific Committee on Food (SCF), the U.S. Food and Drug Administration (FDA), the Expert Panel of the Flavor and Extract Manufacturers Association of the United States (FEMA), the Joint FAO/WHO Expert Committee on Food Additives (JECFA) or the Japanese Food Safety Commission (FSC).

While, the inclusion of a flavouring substance or natural flavouring complex in the IOFI GRL supports the general recognition that it can be safely used in flavours, it does not in and of itself confer regulatory suitability in any specific regulatory jurisdiction. Regulatory authority for the market of intended sale must be separately determined.

18.2 Note on Isomers

18.2.1 In flavour manufacturing, during the isolation of naturals and/or chemical synthesis, pure stereo isomers, geometric isomers or positional isomers can be obtained, as well as mixtures of isomers of variable compositions.

18.2.2 Authoritative bodies involved in the safety assessment of flavouring substances may have reviewed the safety of either the individual stereo-, geometric or positional isomers, or mixtures thereof, as can be deduced from the name, the structural formula or the specifications of the evaluated substance.

18.2.3 In assessing whether a particular component or isomer has been positively evaluated, it is important to investigate whether the safety assessment related to the mixture, or to one of the individual components.

- If the assessment occurred on the mixture, it can be assumed that this assessment remains valid for the safety assessment of the individual components or isomers.
- In situations where the safety assessment only related to a specific component or isomer, it can not simply be assumed that this assessment is valid for the mixture or a different isomer of the related compound. In this case a specific safety assessment may be required to cover either the related isomer or the mixture of isomers.

18.3 LIST OF SOLVENTS AND CARRIERS FOR FLAVOURINGS

Any appropriate food (e.g. sugars, fats, oils or food ingredient) may be used to dilute a flavouring and to facilitate its incorporation and dispersion in a food product.

IOFI acknowledges the use of the following solvents and supports for flavourings, but also recognizes that other suitable materials may be used. Ingredients with an INS (International Numbering System) code are ingredients present on the Codex Alimentarius Food Additives List (CAC/GL 36-1989, revision 2008).

Note: Listing in one section does not preclude the use of those in other categories.

Acetic acid	INS 260
Acetylated distarch adipate	INS 1422
Acetylated distarch phosphate	INS 1414
Agar agar	INS 406
Alginic acid	INS 400
Beeswax	INS 901
Benzyl alcohol	INS 1519
beta-Cyclodextrine	INS 459
Calcium carbonate	INS 170
Calcium silicate	INS 552
Calcium sulphate	INS 516
Candelilla wax	INS 902
Carboxymethyl cellulose, Na salt	INS 466
Carnauba wax	INS 903
Carrageenan	INS 407
Cellulose, microcrystalline	INS 460
Dextran	
Dextrin	
Diammonium phosphate	
Distarch phosphate	INS 1412
Edible fats	
Edible oils	
Elemi resin	
Ethyl alcohol	
Ethyl lactate	
Ethyl cellulose	INS 462
Ethyl hydroxyethyl cellulose	INS 467
Ethyl tartrate	
Gelatin	
Gellan gum	INS 418
Ghatti gum	

Glucose	
Glycerol	INS 422
Glyceryl diacetate	
Glyceryl diesters of aliphatic fatty acids C_6-C_{18}	INS 471
Glyceryl monoesters of aliphatic fatty acids C_6-C_{18}	INS 471
Glyceryl triacetate (Triacetin)	INS 1518
Glyceryl triesters of aliphatic fatty acids C_6-C_{18}	
Glyceryl tripropanoate	
Guar gum	INS 412
Gum Arabic	INS 414
Hydrogenated vegetable oils	
Hydrolyzed vegetable protein	
Hydroxyproplymethyl cellulose	INS 464
Hydroxypropyl cellulose	INS 463
Hydroxypropyl distarch phosphate	INS 1442
Hydroxypropyl starch	INS 1440
iso-Propylalcohol	
Karaya gum	INS 416
Konjac gum	INS 425
Lactic acid	INS 270
Lactose	
Locust bean gum (Carob bean gum)	INS 410
Magnesium carbonate	INS 504 i
Magnesium salts of fatty acids	INS 470b
Maltodextrin	
Mannitol	INS 421
Methyl cellulose	INS 461
Medium chain triglyceride	
Modified Starches	
Acetylated distarch adipate	INS 1422
Acetylated oxidized starch	INS 1451
Acid-treated starch	INS 1401
Alkaline treated starch	INS 1402
Bleached starch	INS 1403
Dextrins, roasted starch	INS 1400
Distarch phosphate	INS 1412
Hydroxypropyl distarch phosphate	INS 1442
Acetylated distarch phosphate	INS 1414
Hydroxypropyl starch	INS 1440
Monostarch phosphate	INS 1410
Oxidized starch	INS 1404
Phosphated distarch phosphate	INS 1413
Starch acetate	INS 1420
Starch sodium octenyl succinate	INS 1450

Starches, enzyme treated	INS 1405
Mono-,di- and tri-Calcium orthophosphate	INS 341i, ii, iii
Na, K, NH_4 and Ca alginate	INS 401-404
Pectins	INS 440
Processed euchema seaweed	INS 407a
Propylene glycol	INS 1520
Propylene glycol alginate	INS 405
Sodium chloride (salt)	
Silicon dioxide	INS 551
Sodium aluminium diphosphate	INS 541
Sodium aluminium silicate	INS 554
Sodium, potassium and calcium salts of fatty acids	INS 470 i, ii
Sorbitol	INS 420 i
Sorbitol sirup	INS 420 ii
Starch	
Starch (sodium) octenyl succinate	INS 1450
Starch acetate	INS 1420
Sucro glycerides	INS 474
Sucrose	
Sucrose esters of fatty acids	INS 473
Sucrose oligoesters, type I and type II	INS 473a
Taragum	INS 417
Tragacanth	INS 413
Triethylcitrate	INS 1505
Water	
Whey powder	
Xanthan gum	INS 415
Xylitol	

18.4 LIST OF ANTIOXIDANTS FOR FLAVOURINGS

IOFI acknowledges the use of the following antioxidants for flavourings, but also recognizes that other suitable materials may be used.

Ascorbic acid	INS 300
Na and Ca salts of ascorbic acid	INS 301-302
Ascorbyl palmitate	INS 304
BHA (Butylated hydroxyanisole)	INS 320
BHT (Butylated hydroxytoluene)	INS 321
Dodecyl gallate	INS 312
Erythorbic acid	INS 315
Sodium, potassium, calcium erythorbate	INS 316, 317, 318
Octyl gallate	INS 311
Propyl gallate	INS 310
TBHQ (tert.-Butyl hydroquinone)	INS 319

Tocopherols - natural	INS 306
Tocopherols - synthetic	INS 307-309

18.5 LIST OF SEQUESTRANTS FOR FLAVOURINGS

IOFI acknowledges the use of the following sequestrants for flavourings, but also recognizes that other suitable materials may be used.

Citric acid multifunctional	INS 330
Ethylene diamino tetraacetic acid and its mono-di- and tri-sodium and calcium di-sodium salts	INS 385, 386
Tartaric acid	INS 334
Tetrasodium diphosphate	INS 450iii
Other phosphates ADD	INS 450, 451

18.6 LIST OF PRESERVATIVES FOR FLAVOURINGS

IOFI acknowledges the use of the following preserving agents for flavourings, but also recognizes that other suitable materials may be used.

Benzoic acid	INS 210
Na, K and Ca salts of benzoic acid	INS 211-213
Ethyl p-hydroxybenzoate	INS 214
Sodium ethyl p-hydroxybenzoate	INS 215
Methyl p-hydroxybenzoate	INS 218
Sodium propyl p-hydroxybenzoate	INS 217
Propyl p-hydroxybenzoate	INS 216
Propionic acid	INS 280,
Na and K salts of propionic acid	INS 281, 283
Sorbic acid	INS 200
Na, K and Ca salts of sorbic acid	INS 201-203
Sulphur dioxide	INS 220
Na, K, Ca sulphites, bisulphites, hydrogen sulphite and metabisulphites	INS 221-228
Sodium methyl p-hydroxybenzoate	INS 219

18.7 LIST OF EMULSIFIERS AND STABILIZERS FOR FLAVOURINGS

IOFI acknowledges the use of the following emulsifiers and stabilizers for flavourings, but also recognizes that other suitable materials may be used.

Agar-Agar	INS 406
Alginic acid	INS 400

Na, K, NH_4 and Ca salts of alginic acid	INS 401-404
Carageenan	INS 407
Citric and fatty acid esters of glycerol	INS 472c
Diacetyl tartaric and fatty acid esters of glycerol	INS 472
Glyceryl diesters of aliphatic fatty acids C_6-C_{18}	INS 471
Glyceryl monoesters of aliphatic fatty acids C_6-C_{18}	INS 471
Guar gum	INS 412
Gum arabic	INS 414
Gum ghatti	INS 419
Gum tragacanth	INS 413
Lactates of mono and di-glycerides of fatty acids	INS 472b
Lecithin	INS 322
Locust bean gum (Carob bean gum)	INS 410
Methyldihydroabietate	
Modified Starches	
Acetylated distarch adipate	INS 1422
Acetylated oxidized starch	INS 1451
Acid-treated starch	INS 1401
Alkaline treated starch	INS 1402
Bleached starch	INS 1403
Dextrins, roasted starch	INS 1400
Distarch phosphate	INS 1412
Hydroxypropyl distarch phosphate	INS 1442
Acetylated distarch phosphate	INS 1414
Hydroxypropyl starch	INS 1440
Monostarch phosphate	INS 1410
Oxidized starch	INS 1404
Phosphated distarch phosphate	INS 1413
Starch acetate	INS 1420
Starch aluminium octenyl succinate	INS 1452
Starches, enzyme treated	INS 1405
Pectins	INS 440
Polyglycerol esters of fatty acids	INS 475
Polyoxyethylene (20) sorbitan monolaurate	INS 432
Polyoxyethylene (20) sorbitan monooleate	INS 433
Polyoxyethylene (40) sorbitan monopalmitate	INS 434
Polyoxyethylene (40) stearate	INS 431
Polyoxyethylene (60) sorbitan tristearate	INS 436
Polyoxyethylene (8) stearate	INS 430
Polyoxyethylene(80) sorbitan monostearate	INS 435
Processed euchema seaweed	INS 407a
Propylene glycol alginate	INS 405
Propylene glycol stearate	
Propyleneglycol esters of fatty acids	INS 477

Sodium citrate	
Sodium stearoyl-2-lactate	INS 481 i
Sorbitan monolaurate	INS 493
Sorbitan monooleate	INS 494
Sorbitan monopalmitate	INS 495
Sorbitan monostearate	INS 491
Sorbitan tristearate	INS 492
Stearyl tartrate	INS 483
Sucro glycerides	INS 474
Sucrose acetate isobutyrate	INS 444
Sucrose esters of fatty acids	INS 473
Xanthan gum	INS 415

18.8 LIST OF WEIGHTING AGENTS FOR FLAVOURINGS

IOFI acknowledges the use of the following weighting agents for flavourings, but recognizes that other suitable materials may be used.

Glycerolester of wood rosin (Estergum)	INS 445
Glyceryl tribenzoate	
Glycerylester of hydrogenated rosin	
Hydrogenated colophonium	
Methyldihydroabietate	
Methylester of hydrogenated rosin	
Propyleneglycol dibenzoate	
Sucrose acetate isobutyrate	INS 444

18.9 LIST OF ACIDS, BASES, SALTS FOR FLAVOURINGS

IOFI acknowledges the use of the following acids, bases, salts for flavourings, but also recognizes that other suitable materials may be used.

Acetic acid	INS 260
Acetic acid, Na, K and Ca salts	INS 261-263
Adipic acid	INS 355
Adipic acid, Na and K salts	INS 356-7
Calcium carbonate	INS 170,170i,170ii
Citric acid	INS 330
Citric acid, Na, K and Ca salts	INS 331-333
Fumaric acid	INS 297
Hydrochloric acid	INS 507
K and Na mono-and dibasic orthophosphates	INS 339-340
K, Ca and Mg chlorides	INS 508-511
K, Ca, NH_4 and Mg hydroxides	INS 525-528
Lactic acid	INS 270

Lactic acid, Na, K and Ca salts	INS 325-327
Magnesium carbonate	INS 504
Malic acid	
Malic acid, Na, K and Ca salts	INS 350-352
Na, K, Ca, NH_4 and Mg sulphates	INS 514-518
Phosphoric acid	INS 338
Potassium carbonate	INS 501
Sodium carbonate	INS 500
Sodium hydroxide	INS 524
Succinic acid	INS 363
Succinic acid, Na	INS 364
Succinic acid, K	
Sulphuric acid	INS 513
Tartaric acid	INS 334
Tartaric acid, Ca salt	INS 354
Tartaric acid, Na and K salts	INS 335-7

18.10 LIST OF ANTICAKING AGENTS FOR FLAVOURINGS

IOFI acknowledges the use of the following anticaking agents for flavourings, but also recognizes that other suitable materials may be used.

Aluminium silicate (Kaolin)	INS 559
Calcium aluminium silicate	INS 556
Calcium carbonate	INS 170
Calcium silicate	INS 552
Magnesium carbonate	INS 504
Magnesium silicate	INS 553
mono-, di-and tri-Calcium orthophosphate	INS 341
Potassium aluminium silicate	INS 555
Silicon dioxide, amorphous (silicic acid, colloidal)	INS 551
Sodium aluminium silicate	INS 554
Stearic acid, salts	INS 470,470i,470ii