STANDARD 1.3.4

IDENTITY AND PURITY

Purpose

This Standard ensures that food additives, processing aids, novel food substances, vitamins and minerals and nutritive substances added to food in accordance with this Code meet appropriate specifications for identity and purity. In general, these specifications are those used by the international community.

Table of Provisions

Clauses

1 Application

This Standard applies only to the following substances which are added to food in accordance with this Code, or sold for use in food –

(a) food additives;
(b) processing aids;
(c) vitamins and minerals;
(d) novel food substances; and
(e) nutritive substances.

2 Substances with specifications in primary sources

A substance must comply with a relevant monograph published in one of the following –

(a) the Schedule to this Standard; or
(b) Combined Compendium of Food Additive Specifications, FAO JECFA Monograph 1 (2005) as superseded by specifications published in FAO JECFA Monographs 3 (2006) and FAO JECFA Monographs 4 (2007) and FAO JECFA Monographs 5 (2008) and FAO JECFA Monographs 7 (2009) and FAO JECFA Monographs 10 (2010) and FAO JECFA Monographs 11 (2011), Food and Agriculture Organisation of the United Nations. Rome; or
(c) United States Pharmacopeial Convention (2014) Food Chemicals Codex. 9th ed, United States Pharmacopeial Convention, Rockville, MD.; or
(d) Commission Regulation (EU) No 231/2012 of 9 March 2012 laying down specifications for food additives.

3 Substances with specifications in secondary sources

If there is no monograph applying to a substance under clause 2, the substance must comply with a relevant monograph published in one of the following –

(a) the *British Pharmacopoeia 2010*, TSO, Norwich (2010); or
(b) the United States Pharmacopeia, 34th Revision and The National Formulary, 29th Edition (2010); or

(c) the Pharmaceutical Codex, 12th Edition, Council of the Pharmaceutical Society of Great Britain. The Pharmaceutical Press, London (1994); or
(d) Martindale; The Complete Drug Reference. The Pharmaceutical Press London (2009); or
(e) the European Pharmacopoeia 6th Edition, Council of Europe, Strasbourg (2007); or
(f) the International Pharmacopoeia 4th Edition, World Health Organization, Geneva (2006 and 2008 supplement); or
(g) the Merck Index, 14th Edition, (2006); or
(h) the Code of Federal Regulations; or
(i) the Specifications and Standards for Food Additives, 8th Edition (2007), Ministry of Health and Welfare (Japan); or
(j) the *International Oenological Codex* (2010 supplementary edition), Organisation Internationale de la Vigne et du Vin (OIV).

4 Additional and supplementary requirements

Where no monograph applies to a substance by virtue of clauses 2 or 3, or where a monograph contains no specifications for identity and purity of a substance relating to arsenic or heavy metals, the substance must not contain on a dry weight basis more than –

(a) 2 mg/kg of lead;
(b) 1 mg/kg of arsenic;
(c) 1 mg/kg of cadmium;
(d) 1 mg/kg of mercury.

SCHEDULE

This Schedule contains specifications of identity and purity for substances added to food where there are no references in the monographs specified in this Standard.

Specification for high chromium yeast

Physical Tests

Appearance:	Fine, free-flowing powder
Colour:	Light off-white or light tan
Odour:	Slight yeast aroma
Particle size:	Min. 90% through a #100 USS screen

Chemical Tests

Moisture:	Maximum 6%
Chromium:	1.8 – 2.25 g/kg

Specification for high molybdenum yeast

Physical Tests

Appearance:	Fine, free-flowing powder
Colour:	Light off-white or light tan
Odour:	Slight yeast aroma
Particle size:	Min. 85% through a #100 USS screen

Chemical Tests

Moisture:	Maximum 6%
Molybdenum:	1.8 – 2.25 g/kg

Specification for oxidised polyethylene

Oxidised polyethylene (CAS 68441-17-8)# is the polymer produced by the mild air oxidation of polyethylene.

Average molecular weight	min 1200 (osmometric)
Viscosity at 125°C	min 200cP
Oxygen content	max 9.1%
Acid value: (ASTM D 1386)*	max 70 mgKOH/g
Drop point: (ASTM D 566)*	min 95° C
Density (20°C) (ASTM D 1298, D 1505)*	0.93 – 1.05 g/cm^3

Extractable constituents (See note 1):

in water	max. 1.5%
in 10% ethanol	max 2.3%
in 3% acetic acid	max 1.8%
in *n*-pentane	max 26.0%

CAS is the Chemical Abstracts Service (CAS) Registry Number.
* ASTM refers to standard test methods prepared by the American Society for Testing and Materials.
Note 1: Extraction of oxidised Polyethylene
25.0 g of finely ground oxidised polyethylene powder (particle size 300-1000 mm) are extracted for 5 hours in the Soxhlet apparatus with 350 mL of solvent. The solvent is then distilled off and the distillation residue is dried in a vacuum oven at 80-90°C. After weighing the obtained residue, the components soluble in the solvent are calculated in % weight (based on the initial weight used).

Specification for bromo-chloro-dimethylhydantoin

Bromo-chloro-dimethylhydantoin (CAS Number: 126-06-7)

Formula:	$C_5H_6BrClN_2O_2$
Formula weight:	241.5

Chemical Properties

Appearance:	Solid or free flowing granules
Colour:	White
Odour:	Faint halogenous odour
Melting Point:	163-164ºC
Specific gravity:	1.8-2
Solubility in water:	0.2 g/100 g at 25ºC
Stability:	Stable when dry and uncontaminated

Chemical Tests

Manufacturing process:	Solid dimethylhydantoin (DMH) is dissolved in water with bromine and chlorine. The reaction is 0.5 mole bromine and 1.5 mole chlorine for one mole DMH. During the reaction the pH is kept basic by the addition of caustic soda. The wet product is transferred to a drier where it is dried to a powder at low temperature. The powder may then be tableted or granulated.

Assay

Procedure:	Various analytical methods exist for analysis, namely, GLC, HPLC, UV and NMR. HPLC offers the best sensitivity.

Specifications for nucleotides

Description / Physical Constraints

Uridine – 5′ monophosphate disodium salt (UMP)

1. Empirical chemical formula: $C_9 H_{11}N_2 O_9PNa_2$

In addition the compound must be of the 5 species, ie the disodium monophosphate structure is attached to the fifth carbon in the central structure.

2. Molecular weight: 368.15

3. Structure/ Physical character: Occurs as a colourless or white crystal or as a white crystalline powder. It is odourless and has a characteristic taste.

4. Solubility: Freely soluble in water; very slightly soluble in alcohol.

Adenosine- 5′ monophosphate (AMP)

1. Empirical chemical formula: $C_{10}H_{14}N_5O_7P$

In addition the compound must be of the 5 species, ie the monophosphate structure is attached to the fifth carbon in the central structure.

2. Molecular weight: 347.22

3. Structure/ Physical character: Occurs as a colourless or white crystal or as a white crystalline powder. It is odourless and has a characteristic acidic taste.

4. Solubility: Very slightly soluble in water; practically insoluble in alcohol.

Cytidine – 5′ monophosphate (CMP)

1. Empirical chemical formula: $C_9H_{14}N_3O_8P$

In addition the compound must be of the 5 species, ie the monophosphate structure is attached to the fifth carbon in the central structure.

2. Molecular weight: 323.20

3. Structure/Physical character: Occurs as a colourless or white crystal or as a white crystalline powder. It is odourless and has a characteristic slightly acidic taste.

4. Solubility: Very slightly soluble in water; practically insoluble in alcohol.

Testing Requirements for Nucleotides

1. Physical inspection: white crystals or crystalline powder

2. Identification:

(a) Ultraviolet absorbance: a 1 in 12,500 solution of the powder in 0.01N hydrochloric acid exhibits an absorbance maximum at:

Absorbance	Nucleotide
250+- 2nm	Inosine – 5′ monophosphate disodium salt
260+- 2nm	Uridine – 5′ monophosphate disodium salt
257+- 2nm	Adenosine – 5′ monophosphate
280+- 2nm	Cytidine – 5′ monophosphate (CMP)
256+- 2nm	Guanosine – 5′ monophosphate disodium salt (GMP)

(b) IMP, UMP and GMP must test positive for sodium phosphate
(c) IMP,UMP,AMP, CMP and GMP must test positive for organic phosphate

3. Assay (HPLC):

Optimum - not less than 96% (corrected for moisture content).

4. IMP and GMP have a pH of a 1 in 20 solution: between 7.0 and 8.5

5. Clarity and colour of solution:

500 mg/10 mL H_2O for IMP: is colourless and shows only a trace of turbidity
100 mg/10 mL H_2O for GMP: is colourless and shows only a trace of turbidity

6. Moisture

Nucleotide	Moisture
Inosine – 5′ monophosphate disodium salt	Not more than 28.5%: Karl Fischer
Uridine – 5′ monophosphate disodium salt	Not more than 26.0%: Karl Fischer
Guanosine – 5′ monophosphate disodium salt (GMP)	Loss in drying - not more than 25% (4 hrs @ 120ºC)
Cytidine – 5′ monophosphate (CMP)	Not more than 6.0%: Loss in drying (4 hrs @ 120ºC)
Adenosine – 5′ monophosphate	Not more than 6.0%: Loss in drying (4 hrs @ 120ºC

7. Impurities – all nucleotides

Impurity	Nucleotide
Amino acids: negative	IMP, GMP
Ammonium salts: negative	IMP, GMP
Arsenic: not more than 2 ppm	IMP, UMP, AMP, CMP, GMP
Heavy metals: not more than 10 ppm	IMP, UMP, AMP, CMP, GMP

8. Related foreign substances:

For IMP: only 5′ - inosinic acid is detected by thin layer chromatography
For GMP: only 5′ - guanylic acid is detected by thin layer chromatography

9. Bacteriological profile

(a) SPC: not more than 1000/g, test per current FDA/BAM procedures

(b) Coliforms: Negative by test; test per current FDA/BAM procedures
(c) Yeast and mould: not more than 300/g, test per current FDA/BAM procedures
(d) Salmonella: negative, test per current FDA/BAM procedures.

Specification for carboxymethyl cellulose ion exchange resin

(a) This specification relates to regenerated cellulose, cross-linked and alkylated with epichlorohydrin and propylene oxide, then derivatised with carboxymethyl groups whereby the amount of epichlorohydrin plus propylene oxide is no more than 70% by weight of the starting quantity of cellulose.

(b) The resins are limited to use in aqueous process streams for the isolation and purification of protein concentrates and isolates. The pH range for the resins shall be no less than 2 and no more than 10, and the temperatures of water and food passing through the resin bed must be no more than 40°C.

(c) When subjected to the extraction regime listed in the 21 CFR § 173.25(c)(4), but using dilute hydrochloric acid at pH2 in place of 5% acetic acid, the ion exchange resins shall result in no more than 25 ppm of organic extractives.

Specification for quaternary amine cellulose ion exchange resin

(a) This specification relates to regenerated cellulose, cross-linked and alkylated with epichlorohydrin and propylene oxide, then derivatised with quaternary amine groups whereby the amount of epichlorohydrin plus propylene oxide is no more than 250% by weight of the starting quantity of cellulose.

(b) The resins are limited to use in aqueous process streams for the isolation and purification of protein concentrates and isolates. The pH range for the resins shall be no less than 2 and no more than 10, and the temperatures of water and food passing through the resin bed must be no more than 50°C.

(c) When subjected to the extraction regime listed in the 21 CFR § 173.25(c)(4), but using dilute hydrochloric acid at pH2 in place of 5% acetic acid, the ion exchange resins shall result in no more than 25 ppm of organic extractives.

Specification for diethyl aminoethyl cellulose ion exchange resin

(a) This specification relates to:

(i) Regenerated cellulose, cross-linked and alkylated with epichlorohydrin and propylene oxide, then derivatised with tertiary amine groups whereby the amount of epichlorohydrin plus propylene oxide is no more than 70% by weight of the starting quantity of cellulose; and
(ii) Regenerated cellulose, cross-linked and alkylated with epichlorohydrin then derivatised with tertiary amine groups whereby the amount of epichlorohydrin is no more than 10% by weight of the starting quantity of cellulose.

(b) The resins are limited to use in aqueous process streams for the isolation and purification of protein concentrates and isolates. The pH range for the resins shall be no less than 2 and no more than 10, and the temperatures of water and food passing through the resin bed must be no more than 50°C.

(c) When subjected to the extraction regime listed in the 21 CFR § 173.25(c)(4), but using dilute hydrochloric acid at pH2 in place of 5% acetic acid, the ion exchange resins shall result in no more than 25 ppm of organic extractives.

Specification for dried marine micro-algae (*Schizochytrium* sp.) rich in docosahexaenoic acid (DHA)

Full chemical name for DHA	4,7,10,13,16,19-docosahexaenoic acid (22:6n-3 DHA)
Solids (%)	min. 95.0
DHA (%)	min. 15.0
Lead (mg/kg)	max. 0.5
Arsenic (mg/kg)	max. 0.5

Specification for oil derived from marine micro-algae (*Schizochytrium* sp.) rich in docosahexaenoic acid (DHA)

Full chemical name for DHA	4,7,10,13,16,19-docosahexaenoic acid (22:6n-3 DHA)
DHA (%)	min. 32
Trans fatty acids (%)	max. 2.0
Lead (mg/kg)	max. 0.1
Arsenic (mg/kg)	max. 0.1
Mercury (mg/kg)	max. 0.1
Hexane (mg/kg)	max. 0.3

Specification for oil derived from the algae *Crypthecodinium cohnii* rich in docosahexaenoic acid (DHA)

Full chemical name for DHA	4,7,10,13,16,19-docosahexaenoic acid (22:6n-3)
DHA (%)	min. 35
Trans fatty acids (%)	max. 2.0
Lead (mg/kg)	max. 0.1
Arsenic (mg/kg)	max. 0.1
Mercury (mg/kg)	max. 0.1
Hexane (mg/kg)	max. 0.3

Specification for oil derived from the fungus *Mortierella alpina* rich in arachidonic acid (ARA)

Full chemical name for ARA	5,8,11,14-eicosatetraenoic acid (20:4n-6 ARA)
ARA (%)	min. 35
Trans fatty acids (%)	max. 2.0
Lead (mg/kg)	max. 0.1
Arsenic (mg/kg)	max. 0.1
Mercury (mg/kg)	max. 0.1
Hexane (mg/kg)	max. 0.3

Specification for resistant maltodextrins

Chemical structure		Glucopyranose linked by α(1-4), α(1-6), α/β(1-2), and α/β(1-3) glucosidic bonds; and contains levoglucosan.
Dextrose equivalent		8-12
Appearance		Free-flowing fine powder
Colour		White
Taste/odour		Slightly sweet/odourless
Solution		Clear
pH (in 10% solution)		4-6
Moisture (%)		max. 5
Ash (%)		max. 0.2
Arsenic (ppm)		max. 1
Heavy metals (ppm)		max. 5
Microbiological	Standard plate count (cfu/g)	max. 300
	Yeast and mould (cfu/g)	max. 100
	Salmonella	Negative to test
	Coliforms	Negative to test

Specification for oil derived from marine micro-algae (*Ulkenia* sp.) rich in docosahexaenoic acid (DHA)

Full chemical name for DHA	4,7,10,13,16,19-docosahexaenoic acid (22:6n-3 DHA)
DHA (%)	min. 32
Trans fatty acids (%)	max. 2.0
Lead (mg/kg)	max. 0.2
Arsenic (mg/kg)	max. 0.2
Mercury (mg/kg)	max. 0.2
Hexane (mg/kg)	max. 10

Specification for ice structuring protein type III HPLC 12 preparation

Ice structuring protein type III HPLC 12 preparation is a protein excreted from the fermentation of a genetically modified yeast (*Saccharomyces cerevisiae*) to which a synthetic gene encoding for the protein has been inserted into the yeast's genome.

Assay	Not less than 5 g/L active ice structuring protein type III HPLC 12
pH	3.0+/-0.5
Ash	Not more than 2%
Appearance	Light brown aqueous preparation
Heavy metals	Not more than 2 mg/L

Microbial limits

Total microbial count	<3000 per g
Coliforms	<10 per g
Yeast and mould count	<100 per g
Listeria sp.	Absent in 25 g
Salmonella sp.	Absent in 25 g
Bacillus cereus	<100 per g

Specification for isomaltulose

Chemical name	6-O-α-D-glucopyranosyl-D-fructofuranose
Description	White or colourless, crystalline, sweet substance, faint isomaltulose specific odour
Isomaltulose (%)	Not less than 98% on a dry weight basis
Water	Max. 6%
Other saccharides	Max. 2% on a dry weight basis
Ash	Max. 0.01% on a dry weight basis
Lead	Max. 0.1 ppm on a dry weight basis

Specification for agarose ion exchange resin

(a) This specification relates to agarose, cross-linked and alkylated with epichlorohydrin and propylene oxide, then derivatised with tertiary amine groups whereby the amount of epichlorohydrin plus propylene oxide does not exceed 250% by weight of the starting quantity of agarose.

(b) The resins are limited to use in aqueous process streams for the removal of proteins and polyphenols from beer. The pH range for the resins shall be no less than 2 and no more than 5, and the temperatures of water and food passing through the resin bed shall not exceed 2˚C. pH and temperature restrictions do not apply to cleaning processes.

(c) When subjected to the extraction regime listed in the 21 CFR § 173.25(c)(4), but using dilute hydrochloric acid at pH 2 in place of 5% acetic acid, the ion exchange resins shall result in no more than 25 ppm of organic extractives.

Specification for bentonite

Bentonite must comply with a monograph specification in clause 2 or clause 3 of this Standard, except that the pH determination for a bentonite dispersion must be no less than 4.5 and no more than 10.5.

Specification for phytosterols, phytostanols and their esters

(1) Subject to subclauses (2) and (3), phytosterols, phytostanols and their esters must comply with a monograph specification in clause 2 or 3 of this Standard.

(2) However, for a mixture which contains no less than 950 g/kg of phytosterol and phytostanols, the concentration of hexane, isopropanol, ethanol, methanol or methyl ethyl ketone either singly or in combination must be no more than 2 g/kg.

(3) The total plant sterol equivalents content must contain no less than 95% des-methyl sterols.

Specification for tall oil phytosterol esters

Tall oil phytosterol esters are phytosterols derived from Tall Oil Pitch esterified with long-chain fatty acids derived from edible vegetable oils Phytosterol Content

Phytosterol esters + free phytosterols	No less than 97%
Free Phytosterols after saponification	No less than 59%
Free phytosterols	No more than 6%
Steradienes	No more than 0.3%

Sterol profile based on input sterols

Campesterol	No less than 4.0% and no more than 25.0%
Campestanol	No more than14.0%
B-sitosterol	No less than 36.0% and no more than 79.0%
B-sitostanol	No less than 6.0% and no more than 34%
Fatty acid methylester	No more than 0.5%
Moisture	No more than 0.1%
Solvents	No more than 50 mg/kg
Residue on ignition	No more than 0.1%

Heavy Metals

Iron	No more than 1.0 mg/kg
Copper	No more than 0.5 mg/kg
Arsenic	No more than 3 mg/kg
Lead	No more than 0.1 mg/kg

Microbiological

Total aerobic count	No more than 10,000 cfu/g
Combined moulds and yeasts	No more than 100 cfu/g
Coliforms	Negative
E. coli	Negative
Salmonella	Negative

Specifications for Advantame

1. Purity

Specification Parameter	Specification Value	Analytical Methodology
Assay	Not less than 97.0% and not more than 102.0% on anhydrous basis	High pressure liquid chromatography (HPLC)
Specific rotation $[\alpha]^{20}$ D	Between -45° and -38°	Japanese Pharmacopeia
Advantame-acid	Not more than 1.0%	HPLC
Total other related substances	Not more than 1.5%	HPLC
Water	Not more than 5.0%	Karl Fischer coulometric titration
Residue on ignition	No more than 0.2%	Japanese Pharmacopeia

2. Residual Solvents

Specification Parameter	Specification Value	Analytical Methodology
Methyl Acetate	No more than 500 mg/kg	Gas chromatography
Isopropyl Acetate	No more than 2000 mg/kg	Gas chromatography
Methanol	No more than 500 mg/kg	Gas chromatography
2-Propanol	No more than 500 mg/kg	Gas chromatography

Specification for dimethyl ether

Characteristic	Specification
Purity	Minimum of 99.8%
Methanol	Not greater than 200 mg/kg

Specification for dibromo-dimethylhydantoin

Dibromo-dimethylhydantoin (CAS Number 77-48-5)

Formula	$C_5H_6Br_2N_2O_2$

Purity

Dibromo-dimethylhydantoin	No less than 97%
Sodium bromide	No more than 2%
Water	No more than 1%

Specification for selenium-enriched yeast

Selenium-enriched yeasts are produced by culture in the presence of sodium selenite as a source of selenium. These yeasts contain selenium according to the following criteria –

Total selenium content	No more than 2.5 mg/kg of the dried form as marketed
Levels of organic selenium species (% total extracted selenium):	
Selenomethionine	No less than 60% and no more than 85%
Other organic selenium compounds (including selenocysteine)	No more than 10%
Levels of inorganic selenium (% total extracted selenium)	No more than 1%

Specification for *Listeria* phage P100

Biological classification

Order	*Caudovirales*
Family	*Myoviridae*
Subfamily	*Spounaviridae*
Genus	Twort-like
Species	*Listeria* phage P100
GenBank Accession Number	DQ004855

Amendment History

The Amendment History provides information about each amendment to the Standard. The information includes commencement or cessation information for relevant amendments.

These amendments are made under section 92 of the *Food Standards Australia New Zealand Act 1991* unless otherwise indicated. Amendments do not have a specific date for cessation unless indicated as such.

About this compilation

This is a compilation of Standard 1.3.4 as in force on **30 October 2014** (up to Amendment No. 150). It includes any commenced amendment affecting the compilation to that date.

Prepared by Food Standards Australia New Zealand on **30 October 2014**.

Uncommenced amendments or provisions ceasing to have effect

To assist stakeholders, the effect of any uncommenced amendments or provisions which will cease to have effect, may be reflected in the Standard as shaded boxed text with the relevant commencement or cessation date. These amendments will be reflected in a compilation registered on the Federal Register of Legislative Instruments including or omitting those amendments and provided in the Amendment History once the date is passed.

The following abbreviations may be used in the table below:

ad = added or inserted
am = amended
exp = expired or ceased to have effect
rep = repealed
rs = repealed and substituted

Standard 1.3.4 was published in the Commonwealth of Australia Gazette No. P 30 on 20 December 2000 as part of Amendment No. 53 (F2008B00617 – 30 September 2008) and has been amended as follows:

Clause affected	A'ment No.	FRLI registration Gazette	Commencement (Cessation)	How affected	Description of amendment
Purpose	124	F2011L01450 8 July 2011 FSC 66 11 July 2011	11 July 2011	rs	Purpose.
1	124	F2011L01450 8 July 2011 FSC 66 11 July 2011	11 July 2011	rs	Clause.
2	60	F2008B00813 23 Dec 2008 FSC 8 22 May 2003	22 May 2003	am	Update reference in paragraph (a).
2	69	F2008B00816 24 Dec 2008 FSC 11 17 Dec 2003	17 Dec 2003	am	Update reference in paragraph (b).
2	78	F2005L01246 26 May 2005 FSC 20 26 May 2005	26 May 2005	am	Update reference in paragraphs (a) and (b).
2	101	F2008L03058 14 Aug 2008 FSC 43 14 Aug 2008	14 Aug 2008	am	Update reference in paragraph (a).

Clause affected	A'ment No.	FRLI registration Gazette	Commencement (Cessation)	How affected	Description of amendment
2	103	F2008L03741 9 Oct 2008 FSC 45 9 Oct 2008	9 Oct 2008	am	Update reference in paragraph (b).
2	111	F2009L03145 13 Aug 2009 FSC 53 13 Aug 2009	13 Aug 2009	rs	Clause.
2	124	F2011L01450 8 July 2011 FSC 66 11 July 2011	11 July 2011	rs	Clause
2	135	F2012L02014 10 Oct 2012 FSC 77 11 Oct 2012	11 Oct 2012	am	Update references in paragraphs (b) and (c).
2	150	F2014L01427 28 Oct 2014 FSC92 30 Oct 2014	30 Oct 2014	rs	Update reference in paragraph (c) and insert new paragraph (d).
3	73	F2008B00820 24 Dec 2008 FSC 15 5 Aug 2004	5 Aug 2004	am	Update reference in paragraph (g).
3	78	F2005L01246 26 May 2005 FSC 20 26 May 2005	26 May 2005	am	Update reference in paragraph (i).
3	98	F2008L01488 15 May 2008 FSC 40 15 May 2008	15 May 2008	am	Update references in paragraphs (j) and (k).
3	103	F2008L03741 9 Oct 2008 FSC 45 9 Oct 2008	9 Oct 2008	rs	Clause.
3	111	F2009L03145 13 Aug 2009 FSC 53 13 Aug 2009	13 Aug 2009	rs	Clause.
3	124	F2011L01450 8 July 2011 FSC 66 11 July 2011	11 July 2011	rs	Clause.
3	150	F2014L01427 28 Oct 2014 FSC92 30 Oct 2014	30 Oct 2014	am	Update reference in paragraph (i).
4	124	F2011L01450 8 July 2011 FSC 66 11 July 2011	11 July 2011	rs	Paragraph (c) and replace with paragraphs (c) and (d).
Schedule	54	F2008B00790 9 Dec 2008 P 17 14 June 2001	14 June 2001	ad	Specifications for bromo-chloro-dimethylhydantoin and phytosterol esters derived from vegetable oils.
Schedule	55	F2008B00791 9 Dec 2008 P 23 30 Aug 2001	30 Aug 2001	ad	Specification for neotame.
Schedule	58	F2008B00796 10 Dec 2008 P 28 20 Dec 2001	20 Dec 2001	ad	Specifications for carboxymethyl, quaternary amine and diethyl aminoethyl cellulose-based ion exchange resins.

Clause affected	A'ment No.	FRLI registration Gazette	Commencement (Cessation)	How affected	Description of amendment
Schedule	60	F2008B00798 19 Dec 2008 FSC 2 20 June 2002	20 June 2002	ad	Specifications for arachidonic acid-rich oils derived from *Mortierella alpina*, docosahexaenoic acid-rich dried marine micro-algae, docosahexaenoic acid-rich oil derived from dried marine micro-algae and docosahexaenoic acid-rich oil derived from *Crypthecodinium cohnii*, and tall oil phytosterols.
Schedule	67	F2008B00814 24 Dec 2008 FSC 9 31 July 2003	31 July 2003	am	Correct a typographical error in specification for tall oil phytosterols derived from tall oils.
Schedule	74	F2008B00821 24 Dec 2008 FSC 16 14 Oct 2004	14 Oct 2004	ad	Specification for resistant maltodextrins.
Schedule	78	F2005L01246 26 May 2005 FSC 20 26 May 2005	26 May 2005	am	Correct a typographical error in paragraph (c) in the specification for quaternary amine cellulose ion exchange resin.
Schedule	78	F2005L01246 26 May 2005 FSC 20 26 May 2005	26 May 2005	ad	Specification for docosahexaenoic acid-rich oil derived from marine micro-algae (*Ulkenia* sp).
Schedule	83	F2005L03673 24 Nov 2005 FSC 25 24 Nov 2005	24 Nov 2005	ad	Specification for ice structuring protein type III HPLC 12.
Schedule	88	F2006L03270 5 Oct 2006 FSC 30 5 Oct 2006	5 Oct 2006	am	References for nucleotides.
Schedule	89	F2006L03647 9 Nov 2006 FSC 31 9 Nov 2006	9 Nov 2006	am	Specifications for tall oil phytosterols derived from tall oils.
Schedule	92	F2007L02406 2 Aug 2007 FSC 34 2 Aug 2007	2 Aug 2007	ad	Specification for isomaltulose.
Schedule	96	F2008L00523 21 Feb 2008 FSC 38 21 Feb 2008	21 Feb 2008	ad	Specification for agarose ion exchange resin.
Schedule	103	F2008L03741 9 Oct 2008 FSC 45 9 Oct 2008	9 Oct 2008	am	'does not exceed' or 'shall not exceed' and remove the border in the text for the specification for oxidised polyethylene.
Schedule	103	F2008L03741 9 Oct 2008 FSC 45 9 Oct 2008	9 Oct 2008	rep	Specification for neotame.
Schedule	111	F2009L03145 13 Aug 2009 FSC 53 13 Aug 2009	13 Aug 2009	ad	Specification for bentonite.
Schedule	115	F2010L00803 8 April 2010 FSC 57 8 April 2010	8 April 2010	rep, ad	Omit specifications for phytosterol esters derived from vegetable oils and tall oil phytosterols derived from tall oils and insert specifications for phytosterols, phytostanols and their esters and tall oil phytosterol esters.
Schedule	124	F2011L01450 8 July 2011 FSC 66 11 July 2011	11 July 2011	am	References in specifications for carboxymethyl cellulose, quaternary amine cellulose, diethyl aminoethyl cellulose and agarose ion exchange resins.

Clause affected	A'ment No.	FRLI registration Gazette	Commencement (Cessation)	How affected	Description of amendment
Schedule	124	F2011L01450 8 July 2011 FSC 66 11 July 2011	11 July 2011	rs	Specifications for docosahexaenoic acid (DHA) –rich dried marine micro-algae (*Schizochytrium* sp.), docosahexaenoic acid (DHA) –rich oil derived from marine micro-algae (*Schizochytrium* sp.), docosahexaenoic acid (DHA) – rich oil derived from the algae *Crypthecodinium cohnii*, oil derived from the fungus *Mortierella alpina* rich in arachidonic acid (ARA) and docosahexaenoic acid (DHA) - rich oil derived from marine micro-algae (*Ulkenia* sp.).
Schedule	125	F2011L01829 7 Sept 2011 FSC 67 8 Sept 2011	8 Sept 2011	ad	Specification for advantame.
Schedule	130	F2012L00929 26 April 2012 FSC 72 26 April 2012	26 April 2012	ad	Specification for dimethyl ether.
Schedule	131	F2012L01060 22 May 2012 FSC 73 24 May 2012	24 May 2012	ad	Specification for dibromo-dimethylhydantoin.
Schedule	132 139	F2012L01341 26 June 2012 FSC 74 28 June 2012 as am by F2013L00250 21 Feb 2013 FSC81 21 Feb 2013	21 Feb 2013	ad	Specification for selenium-enriched yeast to take effect on 28 June 2014. Commencement date brought forward to 21 Feb 2013.
Schedule	135	F2012L02011 10 Oct 2012 FSC 77 11 Oct 2012	11 Oct 2012	ad	Specification for *Listeria* phage P100.
Schedule	135	F2012L02014 10 Oct 2012 FSC 77 11 Oct 2012	11 Oct 2012	am	Specification for nucleotides.
Schedule	150	F2014L01427 28 Oct 2014 FSC92 30 Oct 2014	30 Oct 2014	am	Typographical error in heading for specification for selenium-enriched yeast.