

Food Standards (Proposal P1025 – Code Revision) Variation

The Board of Food Standards Australia New Zealand gives notice of the making of this standard under section 92 of the *Food Standards Australia New Zealand Act 1991*. The Standard commences on 1 March 2016.

Dated 25 March 2015



Standards Management Officer
Delegate of the Board of Food Standards Australia New Zealand

Note:

This Standard will be published in the Commonwealth of Australia Gazette No. FSC 96 on 10 April 2015.

Schedule 18 Processing aids

Note 1 This instrument is a standard under the *Food Standards Australia New Zealand Act 1991* (Cth). The standards together make up the *Australia New Zealand Food Standards Code*. See also section 1.1.1—3.

Substances used as processing aids are regulated by Standard 1.1.1 and Standard 1.3.3. This standard lists substances that may be used as processing aids for paragraph 1.1.2—13(3)(a) and contains permissions to use substances as processing aids for Standard 1.3.3.

Note 2 The provisions of the Code that apply in New Zealand are incorporated in, or adopted under, the *Food Act 2014* (NZ). See also section 1.1.1—3.

S18—1 Name

This Standard is *Australia New Zealand Food Standards Code – Schedule 18 – Processing aids*.

Note Commencement:
This Standard commences on 1 March 2016, being the date specified as the commencement date in notices in the *Gazette* and the *New Zealand Gazette* under section 92 of the *Food Standards Australia New Zealand Act 1991* (Cth). See also section 93 of that Act.

S18—2 Generally permitted processing aids—substances for section 1.3.3—4

(1) For paragraph 1.3.3—4(2)(b), the substances are:

Generally permitted processing aids

| | |
|--------------------------------------|---|
| activated carbon | oxygen |
| ammonia | perlite |
| ammonium hydroxide | phospholipids |
| argon | phosphoric acid |
| bone phosphate | polyethylene glycols |
| carbon monoxide | polyglycerol esters of fatty acids |
| diatomaceous earth | polyglycerol esters of interesterified ricinoleic acid |
| ethoxylated fatty alcohols | polyoxyethylene 40 stearate |
| ethyl alcohol | potassium hydroxide |
| fatty acid polyalkylene glycol ester | propylene glycol alginate |
| furcellaran | silica or silicates |
| hydrogenated glucose syrups | sodium hydroxide |
| isopropyl alcohol | sodium lauryl sulphate |
| magnesium hydroxide | sulphuric acid |
| oleic acid | tannic acid |
| oleyl oleate | |

(2) In this section:

silica or **silicates** includes:

- (a) sodium calcium polyphosphate silicate; and
- (b) sodium hexafluorosilicate; and
- (c) sodium metasilicate; and
- (d) sodium silicate; and
- (e) silica; and
- (f) modified silica;

that complies with a specification in section S3—2 or S3—3.

Note Silicates that are additives permitted at GMP (see section S16—2) may also be used as processing aids, in accordance with paragraph 1.3.3—4(2)(a).

S18—3 Permitted processing aids for certain purposes

For section 1.3.3—5, the substances, foods and maximum permitted levels are:

Permitted processing aids for certain purposes (section 1.3.3—5)

| Substance | Maximum permitted level (mg/kg) |
|--|--|
| <i>Technological purpose—Antifoam agent</i> | |
| Butanol | 10 |
| Oxystearin | GMP |
| Polydimethylsiloxane | 10 |
| Polyethylene glycol dioleate | GMP |
| Polyethylene/ polypropylene glycol copolymers | GMP |
| Soap | GMP |
| Sorbitan monolaurate | 1 |
| Sorbitan monooleate | 1 |
| <i>Technological purpose—Catalyst</i> | |
| Chromium (excluding chromium VI) | 0.1 |
| Copper | 0.1 |
| Molybdenum | 0.1 |
| Nickel | 1.0 |
| Peracetic acid | 0.7 |
| Potassium ethoxide | 1.0 |
| Potassium (metal) | GMP |
| Sodium (metal) | GMP |
| Sodium ethoxide | 1.0 |
| Sodium methoxide | 1.0 |
| <i>Technological purpose—decolourants, clarifying, filtration and adsorbent agents</i> | |
| Acid clays of montmorillonite | GMP |
| Chloromethylated aminated styrene-divinylbenzene resin | GMP |
| Co-extruded polystyrene and polyvinyl pyrrolidone | GMP |
| Copper sulphate | GMP |
| Dimethylamine-epichlorohydrin copolymer | 150 |
| Dimethyldialkylammonium chloride | GMP |
| <i>Technological purpose—decolourants, clarifying, filtration and adsorbent agents</i> | |
| Divinylbenzene copolymer | GMP |
| High density polyethylene co-extruded with kaolin | GMP |
| Iron oxide | GMP |
| Fish collagen, including isinglass | GMP |
| Magnesium oxide | GMP |
| Modified polyacrylamide resins | GMP |

| Substance | Maximum permitted level (mg/kg) |
|---|--|
| Nylon | GMP |
| Phytates (including phytic acid, magnesium phytate & calcium phytate) | GMP |
| Polyester resins, cross-linked | GMP |
| Polyethylene | GMP |
| Polypropylene | GMP |
| Polyvinyl polypyrrolidone | GMP |
| Potassium ferrocyanide | 0.1 |
| <i>Technological purpose—desiccating preparation</i> | |
| Aluminium sulphate | GMP |
| Ethyl esters of fatty acids | GMP |
| Short chain triglycerides | GMP |
| <i>Technological purpose—ion exchange resin</i> | |
| Completely hydrolysed copolymers of methyl acrylate and divinylbenzene | GMP |
| Completely hydrolysed terpolymers of methyl acrylate, divinylbenzene and acrylonitrile | GMP |
| Cross-linked phenol-formaldehyde activated with one or both of the following: triethylene tetramine and tetraethylenepentamine | GMP |
| Cross-linked polystyrene, chloromethylated, then aminated with trimethylamine, dimethylamine, diethylenetriamine, or dimethylethanolamine | GMP |
| Diethylenetriamine, triethylene-tetramine, or tetraethylenepentamin cross-linked with epichlorohydrin | GMP |
| Divinylbenzene copolymer | GMP |
| Epichlorohydrin cross-linked with ammonia | GMP |
| <i>Technological purpose—ion exchange resin</i> | |
| Epichlorohydrin cross-linked with ammonia and then quaternised with methyl chloride to contain not more than 18% strong base capacity by weight of total exchange capacity | GMP |
| Hydrolysed copolymer of methyl acrylate and divinylbenzene | GMP |
| Methacrylic acid-divinylbenzene copolymer | GMP |
| Methyl acrylate-divinylbenzene copolymer containing not less than 2% by weight of divinylbenzene, aminolysed with dimethylaminopropylamine | GMP |
| Methyl acrylate-divinylbenzene copolymer containing not less than 3.5% by weight of divinylbenzene, aminolysed with dimethylaminopropylamine | GMP |
| Methyl acrylate-divinylbenzene-diethylene glycol divinyl ether terpolymer containing not less than 3.5% by weight divinylbenzene and not more than 0.6% by weight of diethylene glycol divinyl ether, aminolysed with dimethaminopropylamine | GMP |
| Methyl acrylate-divinylbenzene-diethylene glycol divinyl ether terpolymer containing not less than 7% by weight divinylbenzene and not more than 2.3% by weight of diethylene glycol divinyl ether, aminolysed with dimethaminopropylamine and quaternised with methyl chloride | GMP |
| Reaction resin of formaldehyde, acetone, and tetraethylenepentamine | GMP |
| 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% of the starting amount of cellulose | GMP |

| Substance | Maximum permitted level (mg/kg) |
|---|--|
| 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% of the starting amount of cellulose | GMP |
| 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% of the starting amount of cellulose | GMP |
| <i>Technological purpose—ion exchange resin</i> | |
| Regenerated cellulose, cross-linked and alkylated with epichlorohydrin and propylene oxide, then sulphonated, whereby the amount of epichlorohydrin plus propylene oxide employed is no more than 250% of the starting amount of cellulose | GMP |
| Styrene-divinylbenzene cross-linked copolymer, chloromethylated then aminated with dimethylamine and oxidised with hydrogen peroxide whereby the resin contains not more than 15% of vinyl N,N-dimethylbenzylamine-N-oxide and not more than 6.5% of nitrogen | GMP |
| Sulphite-modified cross-linked phenol-formaldehyde, with modification resulting in sulphonic acid groups on side chains | GMP |
| Sulphonated anthracite coal | GMP |
| Sulphonated copolymer of styrene and divinylbenzene | GMP |
| Sulphonated terpolymers of styrene, divinylbenzene, and acrylonitrile or methyl acrylate | GMP |
| Sulphonated tetrapolymer of styrene, divinylbenzene, acrylonitrile, and methyl acrylate derived from a mixture of monomers containing not more than a total of 2% by weight of acrylonitrile and methyl acrylate | GMP |
| <i>Technological purpose—lubricant, release and anti-stick agent</i> | |
| Acetylated mono- and diglycerides | 100 |
| Mineral oil based greases | GMP |
| Thermally oxidised soya-bean oil | 320 |
| White mineral oil | GMP |
| <i>Technological purpose—carrier, solvent, diluent</i> | |
| Benzyl alcohol | 500 |
| Croscarmellose sodium | GMP |
| Ethyl acetate | GMP |
| Glycerol diacetate | GMP |
| Glyceryl monoacetate | GMP |
| Glycine | GMP |
| Isopropyl alcohol | 1000 |
| L-Leucine | GMP |
| Triethyl citrate | GMP |

S18—4 Permitted enzymes

- (1) For section 1.3.3—6, the enzymes and sources are set out in:
 - (a) subsection (3) (permitted enzymes of animal origin); and
 - (b) subsection (4) (permitted enzymes of plant origin); and

- (c) subsection (5) (permitted enzymes of microbial origin).
- (2) The sources listed in relation to enzymes of microbial origin may contain additional copies of genes from the same organism.
- Note 1** EC, followed by a number, means the number the Enzyme Commission uses to classify the principal enzyme activity, which is known as the Enzyme Commission number.
- Note 2** ATCC, followed by a number, means the number which the American Type Culture Collection uses to identify a prokaryote.
- Note 3** Some enzyme sources identified in this section are protein engineered. If such an enzyme is used as a processing aid, the resulting food may have as an ingredient a food produced using gene technology, and the requirements relating to foods produced using gene technology will apply—see Standard 1.2.1 and Standard 1.5.2. The relevant enzymes are the following:
- Glycerophospholipid cholesterol acyltransferase, protein engineered variant;
 - Lipase, triacylglycerol, protein engineered variant;
 - Maltotetrahydrolase, protein engineered variant;
- (3) The permitted enzymes of animal origin are:

Permitted enzymes (section 1.3.3—6)—Enzymes of animal origin

| Enzyme | Source |
|---|---|
| Lipase, triacylglycerol (EC 3.1.1.3) | Bovine stomach; salivary glands or forestomach of calf, kid or lamb; porcine or bovine pancreas |
| Pepsin (EC 3.4.23.1) | Bovine or porcine stomach |
| Phospholipase A ₂ (EC 3.1.1.4) | Porcine pancreas |
| Thrombin (EC 3.4.21.5) | Bovine or porcine blood |
| Trypsin (EC 3.4.21.4) | Porcine or bovine pancreas |

- (4) The permitted enzymes of plant origin are:

Permitted enzymes (section 1.3.3—6)—Enzymes of plant origin

| Enzyme | Source |
|--------------------------------|---|
| α-Amylase (EC 3.2.1.1) | Malted cereals |
| β-Amylase (EC 3.2.1.2) | Sweet potato (<i>Ipomoea batatas</i>) Malted cereals |
| Actinidin (EC 3.4.22.14) | Kiwifruit (<i>Actinidia deliciosa</i>) |
| Ficin (EC 3.4.22.3) | <i>Ficus</i> spp. |
| Fruit bromelain (EC 3.4.22.33) | Pineapple fruit (<i>Ananas comosus</i>) |
| Papain (EC 3.4.22.2) | <i>Carica papaya</i> |
| Stem bromelain (EC 3.4.22.32) | Pineapple stem (<i>Ananas comosus</i>) |

- (5) The permitted enzymes of microbial origin are:

Permitted enzymes (section 1.3.3—6)—Enzymes of microbial origin

| Enzyme | Source |
|---|---|
| α-Acetolactate decarboxylase (EC 4.1.1.5) | <i>Bacillus amyloliquefaciens</i> <i>Bacillus subtilis</i> <i>Bacillus subtilis</i> , containing the gene for α-Acetolactate decarboxylase isolated from <i>Bacillus brevis</i> |
| Aminopeptidase (EC 3.4.11.1) | <i>Aspergillus oryzae</i> <i>Lactococcus lactis</i> |

| Enzyme | Source |
|--|---|
| α -Amylase (EC 3.2.1.1) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> <i>Bacillus amyloliquefaciens</i> <i>Bacillus licheniformis</i> <i>Bacillus licheniformis</i> , containing the gene for α -Amylase isolated from <i>Geobacillus stearothermophilus</i> <i>Bacillus subtilis</i> <i>Bacillus subtilis</i> , containing the gene for α -Amylase isolated from <i>Geobacillus stearothermophilus</i> <i>Geobacillus stearothermophilus</i> |
| β -Amylase (EC 3.2.1.2) | <i>Bacillus amyloliquefaciens</i> <i>Bacillus subtilis</i> |
| Amylomaltase (EC 2.4.1.25) | <i>Bacillus amyloliquefaciens</i> , containing the gene for amylomaltase derived from <i>Thermus thermophilus</i> |
| α -Arabinofuranosidase (EC 3.2.1.55) | <i>Aspergillus niger</i> |
| Asparaginase (EC 3.5.1.1) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> |
| Aspergillopepsin I (EC 3.4.23.6) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> |
| Aspergillopepsin II (EC 3.4.23.19) | <i>Aspergillus niger</i> |
| Carboxylesterase (EC 3.1.1.1) | <i>Rhizomucor miehei</i> |
| Catalase (EC 1.11.1.6) | <i>Aspergillus niger</i> <i>Micrococcus luteus</i> |
| Cellulase (EC 3.2.1.4) | <i>Aspergillus niger</i> <i>Penicillium funiculosum</i> <i>Trichoderma reesei</i> <i>Trichoderma viride</i> |
| Chymosin (EC 3.4.23.4) | <i>Aspergillus niger</i> <i>Escherichia coli</i> K-12 strain GE81 <i>Kluyveromyces lactis</i> |
| Cyclodextrin glucanotransferase (EC 2.4.1.19) | <i>Paenibacillus macerans</i> |
| Dextranase (EC 3.2.1.11) | <i>Chaetomium gracile</i> <i>Penicillium lilacinum</i> |
| Endo-arabinase (EC 3.2.1.99) | <i>Aspergillus niger</i> |
| Endo-protease (EC 3.4.21.26) | <i>Aspergillus niger</i> |
| β -Fructofuranosidase (EC 3.2.1.26) | <i>Aspergillus niger</i> <i>Saccharomyces cerevisiae</i> |
| α -Galactosidase (EC 3.2.1.22) | <i>Aspergillus niger</i> |
| β -Galactosidase (EC 3.2.1.23) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> <i>Bacillus circulans</i> ATCC 31382 <i>Kluyveromyces marxianus</i> <i>Kluyveromyces lactis</i> |
| Glucan 1,3- β -glucosidase (EC 3.2.1.58) | <i>Trichoderma harzianum</i> |

| Enzyme | Source |
|---|---|
| β -Glucanase (EC 3.2.1.6) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> <i>Bacillus amyloliquefaciens</i> <i>Bacillus subtilis</i> <i>Disporotrichum dimorphosporum</i> <i>Humicola insolens</i> <i>Talaromyces emersonii</i> <i>Trichoderma reesei</i> |
| Glucoamylase (EC 3.2.1.3) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> <i>Rhizopus delemar</i> <i>Rhizopus oryzae</i> <i>Rhizopus niveus</i> |
| Glucose oxidase (EC 1.1.3.4) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> , containing the gene for glucose oxidase isolated from <i>Aspergillus niger</i> |
| α -Glucosidase (EC 3.2.1.20) | <i>Aspergillus oryzae</i> <i>Aspergillus niger</i> |
| β -Glucosidase (EC 3.2.1.21) | <i>Aspergillus niger</i> |
| Glycerophospholipid cholesterol acyltransferase, protein engineered variant (EC 2.3.1.43) | <i>Bacillus licheniformis</i> , containing the gene for glycerophospholipid cholesterol acyltransferase isolated from <i>Aeromonas salmonicida</i> subsp. <i>salmonicida</i> |
| Hemicellulase endo-1,3- β -xylanase (EC 3.2.1.32) | <i>Humicola insolens</i> |
| Hemicellulase endo-1,4- β -xylanase (EC 3.2.1.8) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> <i>Aspergillus oryzae</i> , containing the gene for Endo-1,4- β -xylanase isolated from <i>Aspergillus aculeatus</i> <i>Aspergillus oryzae</i> , containing the gene for Endo-1,4- β -xylanase isolated from <i>Thermomyces lanuginosus</i> <i>Bacillus amyloliquefaciens</i> <i>Bacillus subtilis</i> <i>Humicola insolens</i> <i>Trichoderma reesei</i> |
| Hemicellulase multicomponent enzyme (EC 3.2.1.78) | <i>Aspergillus niger</i> <i>Bacillus amyloliquefaciens</i> <i>Bacillus subtilis</i> <i>Trichoderma reesei</i> |
| Hexose oxidase (EC 1.1.3.5) | <i>Hansenula polymorpha</i> , containing the gene for Hexose oxidase isolated from <i>Chondrus crispus</i> |
| Inulinase (EC 3.2.1.7) | <i>Aspergillus niger</i> |
| Lipase, monoacylglycerol (EC 3.1.1.23) | <i>Penicillium camembertii</i> |

| Enzyme | Source |
|--|---|
| Lipase, triacylglycerol (EC 3.1.1.3) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> <i>Aspergillus oryzae</i> , containing the gene for Lipase, triacylglycerol isolated from <i>Fusarium oxysporum</i> <i>Aspergillus oryzae</i> , containing the gene for Lipase, triacylglycerol isolated from <i>Humicola lanuginosa</i> <i>Aspergillus oryzae</i> , containing the gene for Lipase, triacylglycerol isolated from <i>Rhizomucor miehei</i> <i>Candida rugosa</i> <i>Hansenula polymorpha</i> , containing the gene for Lipase, triacylglycerol isolated from <i>Fusarium heterosporum</i> <i>Mucor javanicus</i> <i>Penicillium roquefortii</i> <i>Rhizopus arrhizus</i> <i>Rhizomucor miehei</i> <i>Rhizopus niveus</i> <i>Rhizopus oryzae</i> |
| Lipase, triacylglycerol, protein engineered variant (EC 3.1.1.3) | <i>Aspergillus niger</i> , containing the gene for lipase, triacylglycerol isolated from <i>Fusarium culmorum</i> |
| Lysophospholipase (EC 3.1.1.5) | <i>Aspergillus niger</i> |
| Maltogenic α -amylase (EC 3.2.1.133) | <i>Bacillus subtilis</i> containing the gene for maltogenic α -amylase isolated from <i>Geobacillus stearothermophilus</i> |
| Maltotetrahydrolase, protein engineered variant (EC 3.2.1.60) | <i>Bacillus licheniformis</i> , containing the gene for maltotetrahydrolase isolated from <i>Pseudomonas stutzeri</i> |
| Metalloproteinase | <i>Aspergillus oryzae</i> <i>Bacillus amyloliquefaciens</i> <i>Bacillus coagulans</i> <i>Bacillus subtilis</i> |
| Mucorpepsin (EC 3.4.23.23) | <i>Aspergillus oryzae</i> <i>Aspergillus oryzae</i> , containing the gene for Aspartic proteinase isolated from <i>Rhizomucor meihei</i> <i>Rhizomucor meihei</i> <i>Cryphonectria parasitica</i> |
| Pectin lyase (EC 4.2.2.10) | <i>Aspergillus niger</i> |
| Pectinesterase (EC 3.1.1.11) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> , containing the gene for pectinesterase isolated from <i>Aspergillus aculeatus</i> |
| Phospholipase A ₁ (EC 3.1.1.32) | <i>Aspergillus oryzae</i> , containing the gene for phospholipase A ₁ isolated from <i>Fusarium venenatum</i> |
| Phospholipase A ₂ (EC 3.1.1.4) | <i>Aspergillus niger</i> , containing the gene isolated from porcine pancreas <i>Streptomyces violaceoruber</i> |
| 3-Phytase (EC 3.1.3.8) | <i>Aspergillus niger</i> |
| 4-Phytase (EC 3.1.3.26) | <i>Aspergillus oryzae</i> , containing the gene for 4-phytase isolated from <i>Peniophora lycii</i> |
| Polygalacturonase or Pectinase multicomponent enzyme (EC 3.2.1.15) | <i>Aspergillus niger</i> <i>Aspergillus oryzae</i> <i>Trichoderma reesei</i> |

| Enzyme | Source |
|----------------------------------|--|
| Pullulanase (EC 3.2.1.41) | <i>Bacillus acidopullulyticus</i> <i>Bacillus amyloliquefaciens</i> <i>Bacillus licheniformis</i> <i>Bacillus subtilis</i> <i>Bacillus subtilis</i> , containing the gene for pullulanase isolated from <i>Bacillus acidopullulyticus</i> <i>Klebsiella pneumoniae</i> |
| Serine proteinase (EC 3.4.21.14) | <i>Aspergillus oryzae</i> <i>Bacillus amyloliquefaciens</i> <i>Bacillus halodurans</i> <i>Bacillus licheniformis</i> <i>Bacillus subtilis</i> |
| Transglucosidase (EC 2.4.1.24) | <i>Aspergillus niger</i> |
| Transglutaminase (EC 2.3.2.13) | <i>Streptomyces mobaraensis</i> |
| Urease (EC 3.5.1.5) | <i>Lactobacillus fermentum</i> |
| Xylose isomerase (EC 5.3.1.5) | <i>Actinoplanes missouriensis</i> <i>Bacillus coagulans</i> <i>Microbacterium arborescens</i> <i>Streptomyces olivaceus</i> <i>Streptomyces olivochromogenes</i> <i>Streptomyces murinus</i> <i>Streptomyces rubiginosus</i> |

S18—5 Permitted microbial nutrients and microbial nutrient adjuncts

For section 1.3.3—7, the substances are:

Permitted microbial nutrients and microbial nutrient adjuncts

| | |
|----------------------------|--------------------------|
| adenine | glycine |
| adonitol | guanine |
| ammonium sulphate | histidine |
| ammonium sulphite | hydroxyethyl starch |
| arginine | inosine |
| asparagine | inositol |
| aspartic acid | manganese chloride |
| benzoic acid | manganese sulphate |
| biotin | niacin |
| calcium pantothenate | nitric acid |
| calcium propionate | pantothenic acid |
| copper sulphate | peptone |
| cystine | phytates |
| cysteine monohydrochloride | polyvinylpyrrolidone |
| dextran | pyridoxine hydrochloride |
| ferrous sulphate | riboflavin |
| glutamic acid | sodium formate |

| | |
|--------------------|---------------|
| sodium molybdate | uracil |
| sodium tetraborate | xanthine |
| thiamin | zinc chloride |
| threonine | zinc sulphate |

S18—6 Permitted processing aids for water

For section 1.3.3—8, the substances and maximum permitted levels are:

Permitted processing aids for water (section 1.3.3—8)

| Substance | Maximum permitted level (mg/kg) |
|---|--|
| Aluminium sulphate | GMP |
| Ammonium sulphate | GMP |
| Calcium hypochlorite | 5 (available chlorine) |
| Calcium sodium polyphosphate | GMP |
| Chlorine | 5 (available chlorine) |
| Chlorine dioxide | 1 (available chlorine) |
| Cobalt sulphate | 2 |
| Copper sulphate | 2 |
| Cross-linked phenol-formaldehyde activated with one or both of triethylenetetramine or tetraethylenepentamine | GMP |
| Cross-linked polystyrene, first chloromethylated then aminated with trimethylamine, dimethylamine, diethylenetriamine or dimethylethanolamine | GMP |
| Diethylenetriamine, triethylenetetramine or tetraethylenepentamine cross-linked with epichlorohydrin | GMP |
| Ferric chloride | GMP |
| Ferric sulphate | GMP |
| Ferrous sulphate | GMP |
| Hydrofluorosilicic acid (fluorosilicic acid) (only in water used as an ingredient in other foods) | 1.5 (as fluoride) |
| Hydrolysed copolymers of methyl acrylate and divinylbenzene | GMP |
| Hydrolysed terpolymers of methyl acrylate, divinylbenzene and acrylonitrile | GMP |
| Hydrogen peroxide | 5 |
| 1-Hydroxyethylidene-1,1-diphosphonic acid | GMP |
| Lignosulphonic acid | GMP |
| Magnetite | GMP |
| Maleic acid polymers | GMP |
| Methyl acrylate-divinylbenzene copolymer containing not less than 2% divinylbenzene aminolysed with dimethylaminopropylamine | GMP |
| Methacrylic acid-divinylbenzene copolymer | GMP |
| Methyl acrylate-divinylbenzene-diethylene glycol divinyl ether terpolymer containing not less than 3.5% divinylbenzene and not more than 0.6% diethylene glycol divinyl ether, aminolysed with dimethylaminopropylamine | GMP |
| Modified polyacrylamide resins | GMP |
| Monobutyl ethers of polyethylene-polypropylene glycol | GMP |

| Substance | Maximum permitted level (mg/kg) |
|---|--|
| Ozone | GMP |
| Phosphorous acid | GMP |
| Polyacrylamide (polyelectrolytes) (as acrylamide monomer) | 0.0002 |
| Polyaluminium chloride | GMP |
| Polydimethyldiallyl ammonium chloride | GMP |
| Polyoxypropylene glycol | GMP |
| Potassium permanganate | GMP |
| Reaction resin of formaldehyde, acetone and tetraethylenepentamine | GMP |
| Regenerated cellulose, cross-linked and alkylated with epichlorohydrin and propylene oxide, then sulphonated whereby the amount of epichlorohydrin plus propylene oxide employed is no more than 250% of the starting amount of cellulose | GMP |
| Silver ions | 0.01 |
| Sodium aluminate | GMP |
| Sodium fluoride (only in water used as an ingredient in other foods) | 1.5 (as fluoride) |
| Sodium fluorosilicate (Sodium silicofluoride) (only in water used as an ingredient in other foods) | 1.5 (as fluoride) |
| Sodium glucoheptonate | 0.08 (measured as cyanide) |
| Sodium gluconate | GMP |
| Sodium humate | GMP |
| Sodium hypochlorite | 5 (available chlorine) |
| Sodium lignosulphonate | GMP |
| Sodium metabisulphite | GMP |
| Sodium nitrate | 50 (as nitrate) |
| Sodium polymethacrylate | 2.5 |
| Sodium sulphite (neutral or alkaline) | GMP |
| Styrene-divinylbenzene cross-linked copolymer | 0.02 (as styrene) |
| Sulphonated copolymer of styrene and divinylbenzene | GMP |
| Sulphonated terpolymers of styrene, divinylbenzene acrylonitrile and methyl acrylate | GMP |
| Sulphite modified cross-linked phenol-formaldehyde | GMP |
| Tannin powder extract | GMP |
| Tetrasodium ethylene diamine tetraacetate | GMP |
| Zinc sulphate | GMP |

S18—7 Permitted bleaching, washing and peeling agents—various foods

For section 1.3.3—9, the substances, foods and maximum permitted levels are:

Permitted bleaching, washing and peeling agents (section 1.3.3—9)

| Substance | Food | Maximum permitted level (mg/kg) |
|------------------------------------|-----------------------------|--|
| Benzoyl peroxide | All foods | 40 (measured as benzoic acid) |
| Bromo-chloro-dimethylhydantoin | All foods | 1.0 (available chlorine) 1.0 (inorganic bromide) 2.0 (dimethylhydantoin) |
| Calcium hypochlorite | All foods | 1.0 (available chlorine) |
| Chlorine | All foods | 1.0 (available chlorine) |
| Chlorine dioxide | All foods | 1.0 (available chlorine) |
| Diammonium hydrogen orthophosphate | All foods | GMP |
| Dibromo-dimethylhydantoin | All foods | 2.0 (inorganic bromide) 2.0 (dimethylhydantoin) |
| 2-Ethylhexyl sodium sulphate | All foods | 0.7 |
| Hydrogen peroxide | All foods | 5 |
| Iodine | Fruits, vegetables and eggs | GMP |
| Oxides of nitrogen | All foods | GMP |
| Ozone | All foods | GMP |
| Peracetic acid | All foods | GMP |
| Sodium chlorite | All foods | 1.0 (available chlorine) |
| Sodium dodecylbenzene sulphonate | All foods | 0.7 |
| Sodium hypochlorite | All foods | 1.0 (available chlorine) |
| Sodium laurate | All foods | GMP |
| Sodium metabisulphite | Root and tuber vegetables | 25 |
| Sodium peroxide | All foods | 5 |
| Sodium persulphate | All foods | GMP |
| Triethanolamine | Dried vine fruit | GMP |

S18—8 Permitted extraction solvents—various foods

For section 1.3.3—10, the substances, foods and maximum permitted levels are:

Permitted extraction solvents (section 1.3.3—10)

| Substance | Food | Maximum permitted level (mg/kg) |
|------------------|-----------------------|--|
| Acetone | Flavouring substances | 2 |
| | Other foods | 0.1 |
| Benzyl alcohol | All foods | GMP |
| Butane | Flavouring substances | 1 |
| | Other foods | 0.1 |
| Butanol | All foods | 10 |
| Cyclohexane | All foods | 1 |
| Dibutyl ether | All foods | 2 |
| Diethyl ether | All foods | 2 |
| Dimethyl ether | All foods | 2 |

| Substance | Food | Maximum permitted level (mg/kg) |
|---------------------|-----------------------|--|
| Ethyl acetate | All foods | 10 |
| Glyceryl triacetate | All foods | GMP |
| Hexanes | All foods | 20 |
| Isobutane | Flavouring substances | 1 |
| | Other foods | 0.1 |
| Methanol | All foods | 5 |
| Methylene chloride | Decaffeinated coffee | 2 |
| | Decaffeinated tea | 2 |
| | Flavouring substances | 2 |
| Methylethyl ketone | All foods | 2 |
| Propane | All foods | 1 |
| Toluene | All foods | 1 |

S18—9

Permitted processing aids—various technological purposes

(1) For section 1.3.3—11, the substances, foods, technological purposes and maximum permitted levels are set out in the table to subsection (3).

(2) In this section:

agarose ion exchange resin means 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 amount of agarose.

approved food for use of phage means food that:

- (a) is ordinarily consumed in the same state in which it is sold; and
- (b) is solid; and
- (c) is one of the following:
 - (i) meat or meat product;
 - (ii) fish or fish product;
 - (iii) fruit or fruit product;
 - (iv) vegetable or vegetable product;
 - (v) cheese; and
- (d) is not one of the following:
 - (i) whole nuts in the shell;
 - (ii) raw fruits and vegetables that are intended for hulling, peeling or washing by the consumer.

(3) The table is:

Permitted processing aids—various purposes (section 1.3.3—11)

| Substance | Technological purpose | Maximum permitted and food level (mg/kg) |
|----------------------------|--|---|
| Agarose ion exchange resin | Removal of specific proteins and polyphenols from beer | GMP |
| Ammonium persulphate | Yeast washing agent | GMP |
| Ammonium sulphate | Decalcification agent for edible casings | GMP |
| Butanol | Suspension agent for sugar crystals | 10 |

| Substance | Technological purpose | Maximum permitted and food level (mg/kg) |
|---|---|---|
| Carbonic acid | Bleached tripe washing agent | GMP |
| Cetyl alcohol | Coating agent on meat carcasses and primal cuts to prevent desiccation | 1.0 |
| Chitosan sourced from <i>Aspergillus niger</i> | Manufacture of wine, beer, cider, spirits and food grade ethanol | GMP |
| A colouring that is an additive permitted at GMP, a colouring permitted at GMP, or a colouring permitted to a maximum level | Applied to the outer surface of meat as a brand for the purposes of inspection or identification | GMP |
| Cupric citrate | Removal of sulphide compounds from wine | GMP |
| β-Cyclodextrin | Used to extract cholesterol from eggs | GMP |
| L-Cysteine (or HCl salt) | Dough conditioner | 75 |
| Ethyl acetate | Cell disruption of yeast | GMP |
| Ethylene diamine tetraacetic acid | Metal sequestrant for edible fats and oils and related products | GMP |
| Gibberellic acid | Barley germination | GMP |
| Gluteral | Manufacture of edible collagen casings | GMP |
| Hydrogen peroxide | Control of lactic acid producing microorganisms to stabilise the pH during the manufacture of: (a) fermented milk; (b) fermented milk products; (c) cheese made using lactic acid producing microorganisms; or (d) cheese products made using lactic acid producing microorganisms | 5 |
| | Inhibiting agent for dried vine fruits, fruit and vegetable juices, sugar, vinegar and yeast autolysate | 5 |
| | Removal of glucose from egg | 5 |
| | Removal of sulphur dioxide | 5 |
| 1-Hydroxyethylidene-1, 1-diphosphonic acid | Metal sequestrant for use with anti-microbial agents for meat, fruit and vegetables | GMP |
| Ice Structuring Protein type III HPLC 12 | Manufacture of ice cream and edible ices | 100 |
| Indole acetic acid | Barley germination | GMP |
| Lactoperoxidase from bovine milk EC 1.11.1.7 | Reduce the bacterial population or inhibit bacterial growth on meat surfaces | GMP |
| <i>Listeria</i> phage P100 | Listericidal treatment for use on approved food for use of phage | GMP |
| Morpholine | Solubilising agent for coating mixtures on fruits | GMP |
| Oak | For use in the manufacture of wine | GMP |

| Substance | Technological purpose | Maximum permitted and food level (mg/kg) |
|---|--|--|
| Octanoic acid | Anti-microbial agent for meat, fruit and vegetables | GMP |
| Paraffin | Coatings for cheese and cheese products | GMP |
| Polyvinyl acetate | Preparation of waxes for use in cheese and cheese products | GMP |
| Potassium bromate | Germination control in malting of bromate | Limit of determination |
| Sodium bromate | Germination control in malting of bromate | Limit of determination |
| Sodium chlorite | Anti-microbial agent for meat, fish, fruit and vegetables | Limit of determination of chlorite, chlorate, chlorous acid and chlorine dioxide |
| Sodium gluconate | Denuding, bleaching & neutralising tripe | GMP |
| Sodium glycerophosphate | Cryoprotectant for starter culture | GMP |
| Sodium metabisulphite | Dough conditioner | 60 |
| | Removal of excess chlorine | 60 |
| | Softening of corn kernels for starch manufacture | 60 (in the starch) |
| | Treatment of hides for use in gelatine and collagen manufacture | GMP |
| Sodium sulphide | Treatment of hides for use in gelatine and collagen manufacture | GMP |
| Sodium sulphite | Dough conditioner | 60 |
| Sodium thiocyanate | Reduce and/or inhibit bacterial population on meat surfaces | GMP |
| Stearyl alcohol | Coating agent on meat carcasses and primal cuts to prevent desiccation | GMP |
| Sulphur dioxide | Control of nitrosodimethylamine in malting | 750 |
| | Treatment of hides for use in gelatine and collagen manufacture | 750 |
| Sulphurous acid | Softening of corn kernels | GMP |
| | Treatment of hides for use in gelatine and collagen manufacture | GMP |
| Triethanolamine | Solubilising agent for coating mixtures for fruits | GMP |
| Urea | Manufacture of concentrated gelatine solutions | 1.5 times the mass of the gelatine present |
| | Microbial nutrient and microbial nutrient adjunct for the manufacture of all foods, except alcoholic beverages | GMP |
| Woodflour from untreated <i>Pinus radiata</i> | Gripping agent used in the treatment of hides | GMP |

S18—10

Permission to use dimethyl dicarbonate as microbial control agent

For section 1.3.3—12, the foods and maximum permitted addition levels are:

Permission to use dimethyl dicarbonate as microbial control agent (section 1.3.3—12)

| <i>Food</i> | <i>Maximum permitted addition level</i> |
|---|--|
| Any of the following: | 250 mg/kg |
| (a) fruit juice; | |
| (b) vegetable juice; | |
| (c) fruit juice product; | |
| (d) vegetable juice product. | |
| Water based flavoured drinks | 250 mg/kg |
| Formulated beverages | 250 mg/kg |
| Any of the following: | 200 mg/kg |
| (a) wine | |
| (b) sparkling wine; | |
| (c) fortified wine; | |
| (d) fruit wine (including cider and perry); | |
| (e) vegetable wine; | |
| (f) mead | |