



Identifying  
**Food Additives**



*Te Pou Oranga Kai o Aotearoa*

# Identifying Food Additives

The information contained in this booklet may help you understand **what's in the foods** you eat and **why additives are used**.

## Food Additives

Additives are used to improve food.

They can:

- improve the keeping quality of a food by making it last longer on the shelf or in the fridge, for example, a preservative to prevent the growth of bacteria or a humectant to stop food from drying out;
- improve the taste or appearance of a food, for example, by the use of flavours, thickeners and colours.

Another benefit of food additives is that consumers can be offered a wider choice of foods. Many processed foods contain additives. Some common examples are bacon, margarine, ice cream and bread.

Some people believe that because food additives are chemicals they should be banned. However, everything in the world, including us and the food we eat, is made of chemicals. Air, water, glucose and salt are chemicals in the same way that food additives are.

Many food additives occur naturally, such as red colour from beetroot (Beet red), and purple colour from grape skins (anthocyanins). These colours can be extracted and added to other foods.

Some food additives found in nature can be manufactured, for example, ascorbic acid. Other additives are manufactured but not found in nature, such as aspartame which is used to replace sugar.

## Controlling the use of additives

Before an additive can be used in foods, Food Standards Australia New Zealand (FSANZ) carries out a safety assessment. All additives go through a safety

assessment process. FSANZ checks that the food additive is safe at the level proposed to be used, and that there are good technological reasons for the use of the additive. If FSANZ agrees that a food additive should be permitted, approval of government Ministers is sought. It is only after Ministerial approval that a food additive can be used in foods. The Food Standards Code (this is the joint food law between Australia and New Zealand) says which additives can be used and in what foods.

## Additives and adverse reactions (intolerance, allergies)

A small number of people may have adverse reactions to some food additives, just as some people may be allergic to or have adverse reactions to peanuts, milk or shellfish. Food labelling helps people who are sensitive to certain food additives to avoid them.

## Reading the food label

To check what additives are in foods, read the label. All food ingredients, including any additives, must be listed on the label of a food. The ingredients are listed in descending order of in-going weight.

On the label, within the list of ingredients, the class name of the additive will be listed and then the additive name or code number in brackets.

*For example:*

Thickener (pectin) or Thickener (440)  
(class name) (additive name) (class name) (code number)

### **Class name**

Food additives are grouped into classes according to their function. For example, all colour additives are used to colour food, so are in one group in this booklet. Some food additives have more than one use. See for example Soy Lecithin (number 322). It can be used as an antioxidant and also as an emulsifier. It therefore has two entries in this booklet. Where an additive is capable of being classified in more than one class the most appropriate class name is used on the label of a food.

In some cases there are optional or alternative class names not listed in this booklet that can be used on the label.

For example, some thickeners can also be called modified starches.

Some additives do not have a legally defined class name. The group of additives that function as propellants (see table in this booklet) have no legally defined class name, so are listed on the label by the specific name of the additive, with no reference to a class name.

### **Code numbers**

Most food additives have code numbers. The numbers listed in this booklet are part of an international numbering system.

Code numbers use less space on labels than names of additives. They also help avoid the confusion caused by some additives having more than one name, or additives with similar names.

Enzymes and flavours are not required to be specifically named, or identified with code numbers. These additives are required to be labelled by their class name only.

Some code numbers may have an "E" in front of them. This means that the food is labelled for the European Union market.

### **Vitamins and minerals**

Vitamins and minerals are not classified as additives under the Food Standards Code. Some vitamins and minerals have a code number however, as they are also used as food additives. An example of this is Ascorbic acid (vitamin C), which is an antioxidant but can also be added as a vitamin to some foods. Those additives that can also function as a vitamin or mineral are identified in this booklet with an asterisk.

### **What food additives do**

In this booklet food additives are listed under their class name in numerical order. Look at the beginning of each class to find out what they do. For example under COLOURS it states what they do and why they are used. You will find, for example, that colour (110) is Sunset yellow FCF.

### **Further information**

Further information on food and the regulations for food can be obtained from

[www.nzfsa.govt.nz](http://www.nzfsa.govt.nz)

[www.foodstandards.govt.nz](http://www.foodstandards.govt.nz)



## FOOD ADDITIVES

When you are shopping you may wish to check the additives in the foods you buy. The food additives allowed in New Zealand and Australia are listed below. They are listed in their classes in numerical order.

## COLOURS

Colours make foods look more attractive. They are added to help identify flavours, to make food look brighter and to restore colour that may have been lost during processing.

100	Curcumim or Turmeric
101*	Riboflavin or Riboflavin 5'-phosphate sodium
102	Tartrazine
103	Alkanet or Alkannin
104	Quinoline yellow
110	Sunset yellow FCF
120	Cochineal or Carmines or Carminic acid
122	Azorubine or Carmoisine
123	Amaranth
124	Ponceau 4R
127	Erythrosine
129	Allura red AC
132	Indigotine
133	Brilliant Blue FCF
140	Chlorophyll
141	Chlorophyll-copper complex or Chlorophyllin copper complex, sodium and potassium salts
142	Green S
143	Fast green FCF
150a	Caramel I
150b	Caramel II
150c	Caramel III
150d	Caramel IV
151	Brilliant black BN or Brilliant Black PN
153	Carbon blacks or Vegetable carbon
155	Brown HT
160a*	Carotene
160b	Annatto extracts
160c	Paprika oleoresins
160d	Lycopene

\* Denotes additives that can also be added to a food as a vitamin or mineral, where the Food Standards Code permits. See section on vitamins and minerals page 3.

160e*	beta-apo-8' Carotenal
160f*	beta-apo-8' Carotenoic acid, methyl or ethyl ester
161a	Flavoxanthin
161b	Lutein
161c	Kryptoxanthin
161d	Rubixanthin
161e	Violoxanthin
161f	Rhodoxanthin
162	Beet red
163	Anthocyanins or Grape skin extract or Blackcurrant extract
164	Saffron or Crocetin or Crocin
170*	Calcium carbonate
171	Titanium dioxide
172	Iron oxide
173	Aluminium
174	Silver
175	Gold
181	Tannic acid or Tannins

## PRESERVATIVES

Preservatives are used to improve the safety of food by controlling the growth of mould, bacteria and yeast that cause food to deteriorate.

200	Sorbic acid
201	Sodium sorbate
202	Potassium sorbate
203	Calcium sorbate
210	Benzoic acid
211	Sodium benzoate
212	Potassium benzoate
213	Calcium benzoate
216	Propylparaben or Propyl-p-hydroxy-benzoate
218	Methylparaben or Methyl-p-hydroxy-benzoate
220	Sulphur dioxide
221	Sodium sulphite
222	Sodium bisulphite
223	Sodium metabisulphite
224	Potassium metabisulphite
225	Potassium sulphite
228	Potassium bisulphite
234	Nisin

235	Natamycin or Pimaricin
242	Dimethyl dicarbonate
249	Potassium nitrite
250	Sodium nitrite
251	Sodium nitrate
252	Potassium nitrate
280	Propionic acid
281	Sodium propionate
282	Calcium propionate
283	Potassium propionate
385	Calcium disodium ethylenediaminetetraacetate or Calcium disodium EDTA
1105	Lysozyme

## ACIDITY REGULATORS

Acidity regulators (including acids and alkalis) adjust the acid or alkaline level in food or maintain a sour or sharp taste. An acidified food can retard the growth of some microorganisms.

260	Acetic acid, glacial
261	Potassium acetate or Potassium diacetate
262	Sodium acetate or Sodium diacetate
263	Calcium acetate
264	Ammonium acetate
270	Lactic acid
296	Malic acid
297	Fumaric acid
325	Sodium lactate
326	Potassium lactate
327*	Calcium lactate
328	Ammonium lactate
329	Magnesium lactate
330	Citric acid
331	Sodium citrates
332	Potassium citrates
333*	Calcium citrate
334	Tartaric acid
335	Sodium tartrate
336	Potassium tartrate or Potassium acid tartrate
337	Potassium sodium tartrate
338*	Phosphoric acid

339*	Sodium phosphates
340*	Potassium phosphates
341*	Calcium phosphates
342	Ammonium phosphates
343*	Magnesium phosphates
349	Ammonium malate
350	Sodium malates
351	Potassium malates
352	Calcium malates
353	Metatartaric acid
354	Calcium tartrate
355	Adipic acid
357	Potassium adipate
359	Ammonium adipates
363	Succinic acid
365	Sodium fumarate
366	Potassium fumarate
367	Calcium fumarate
368	Ammonium fumarate
380	Ammonium citrate or Triammonium citrate
381*	Ferric ammonium citrate
450	Potassium pyrophosphate or Sodium acid pyrophosphate or Sodium pyrophosphate
451	Potassium tripolyphosphate or Sodium tripolyphosphate
500	Sodium carbonate or Sodium bicarbonate
501	Potassium carbonate or Potassium bicarbonate
503	Ammonium bicarbonate or Ammonium hydrogen carbonate
504*	Magnesium carbonates
507	Hydrochloric acid
514	Sodium sulphates
515	Potassium sulphate
526*	Calcium hydroxide
529*	Calcium oxide
541	Sodium aluminium phosphate
575	Glucono delta-lactone
578*	Calcium gluconate
580*	Magnesium gluconate

\* Denotes additives that can also be added to a food as a vitamin or mineral, where the Food Standards Code permits. See section on vitamins and minerals page 3.

## ANTIOXIDANTS

Antioxidants help to stop oils and fats from deteriorating and developing rancid flavours. They also slow down colour and flavour changes so foods made using oils and fats can be kept for longer.

300*	Ascorbic acid
301*	Sodium ascorbate
302*	Calcium ascorbate
303*	Potassium ascorbate
304*	Ascorbyl palmitate
306*	Tocopherols concentrate, mixed
307*	alpha - Tocopherol
308	gamma - Tocopherol
309	delta - Tocopherol
310	Propyl gallate
311	Octyl gallate
312	Dodecyl gallate
315	Erythorbic acid
316	Sodium erythorbate
319	tert-Butylhydroquinone
320	Butylated hydroxyanisole
321	Butylated hydroxytoluene
322	Lecithin
330	Citric acid
331	Sodium citrates
332	Potassium citrates
333*	Calcium citrate
334	Tartaric acid
385	Calcium disodium ethylenediaminetetraacetate or Calcium disodium EDTA
512	Stannous chloride
586	4-hexylresorcinol
1102	Glucose oxidase

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## EMULSIFIERS, STABILISERS, THICKENERS AND GELLING AGENTS

<b>Emulsifiers</b>	are used to ensure that mixtures of oil- and water-based ingredients stay mixed together.
<b>Stabilisers</b>	make it possible for two or more ingredients (which usually don't stay mixed) to stay together.
<b>Thickeners</b>	thicken food and ensure uniform consistency. These include modified starches.
<b>Gelling agents</b>	modify food texture through the formation of a gel. This helps food to set.

181	Tannic acid or tannins
322	Lecithin
331	Sodium citrates
332	Potassium citrates
333*	Calcium citrate
336	Potassium tartrate or Potassium acid tartrate
337	Potassium sodium tartrate
339*	Sodium phosphates
340*	Potassium phosphates
341*	Calcium phosphates
400	Alginic acid
401	Sodium alginate
402	Potassium alginate
403	Ammonium alginate
404	Calcium alginate
405	Propylene glycol alginate
406	Agar
407	Carrageenan
407a	Processed eucheuma seaweed
409	Arabinogalactan or Larch gum
410	Locust bean gum or Carob bean gum
412	Guar gum
413	Tragacanth gum
414	Acacia gum or Gum arabic
415	Xanthan gum
416	Karaya gum
418	Gellan gum
420	Sorbitol or Sorbitol syrup
421	Mannitol
422	Glycerin or glycerol

431	Polyoxyethylene (40) stearate
433	Polysorbate 80 or Polyoxyethylene (20) sorbitan monooleate
435	Polysorbate 60 or Polyoxyethylene (20) sorbitan monostearate
436	Polysorbate 65 or Polyoxyethylene (20) sorbitan tristearate
440	Pectins
442	Ammonium salts of phosphatidic acid
444	Sucrose acetate isobutyrate
445	Glycerol esters of wood rosin
450	Potassium pyrophosphate or Sodium acid pyrophosphate or Sodium pyrophosphate
451	Potassium tripolyphosphate or sodium tripolyphosphate
452	Potassium polymetaphosphate or Sodium metaphosphate, insoluble or Sodium polyphosphates, glassy
460	Cellulose, microcrystalline or powdered
461	Methyl cellulose
463	Hydroxypropyl cellulose
464	Hydroxypropyl methylcellulose
465	Methyl ethyl cellulose
466	Sodium carboxymethylcellulose
470	Aluminium, calcium, sodium, magnesium, potassium and ammonium salts of fatty acids
471	Mono- and di-glycerides of fatty acids
472a	Acetic and fatty acid esters of glycerol
472b	Lactic and fatty acid esters of glycerol
472c	Citric and fatty acid esters of glycerol
472e	Diacetyltartaric and fatty acid esters of glycerol
472f	Mixed tartaric, acetic and fatty acid esters of glycerol
473	Sucrose esters of fatty acids
475	Polyglycerol esters of fatty acids
476	Polyglycerol esters of interesterified ricinoleic acid
477	Propylene glycol mono - and di-esters or Propylene glycol esters of fatty acids
480	Diethyl sodium sulphosuccinate
481	Sodium lactylate or Sodium oleyl lactylate or Sodium stearyl lactylate
482	Calcium lactylate or Calcium oleyl lactylate or Calcium stearyl lactylate
491	Sorbitan monostearate
492	Sorbitan tristearate

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501	Potassium carbonate or Potassium bicarbonate
508	Potassium chloride
541	Sodium aluminium phosphate
542*	Bone phosphate
900a	Polydimethylsiloxane or Dimethylpolysiloxane
965	Maltitol and Maltitol syrup or Hydrogenated glucose syrup
967	Xylitol
1001	Choline salts
1101	Proteases (papain, bromelain, ficin)
1200	Polydextrose
1201	Polyvinylpyrrolidone
1400	Dextrin roasted starch
1401	Acid treated starch
1402	Alkaline treated starch
1403	Bleached starch
1404	Oxidised starch
1405	Enzyme treated starches
1410	Monostarch phosphate
1412	Distarch phosphate
1413	Phosphated distarch phosphate
1414	Acetylated distarch phosphate
1420	Starch acetate esterified with acetic anhydride
1422	Acetylated distarch adipate
1440	Hydroxypropyl starch
1442	Hydroxypropyl distarch phosphate
1450	Starch sodium octenylsuccinate

## ANTICAKING AGENTS

Anticaking agents reduce the tendency of particles to stick together so that products like salt flow freely.

170*	Calcium carbonate
341*	Calcium phosphates
343*	Magnesium phosphates
381*	Ferric ammonium citrate
460	Cellulose, microcrystalline or powdered
470	Aluminium, calcium, sodium, magnesium, potassium and ammonium salts of fatty acids
500	Sodium carbonate or Sodium bicarbonate
504*	Magnesium carbonates
530*	Magnesium oxide

535	Sodium ferrocyanide
536	Potassium ferrocyanide
542*	Bone phosphate
551	Silicon dioxide, amorphous
552	Calcium silicate
553	Magnesium silicate or Talc
554	Sodium aluminosilicate
555	Potassium aluminium silicate
556	Calcium aluminium silicate
558	Bentonite
559	Aluminium silicate
560	Potassium silicate
900a	Polydimethylsiloxane or Dimethylpolysiloxane
953	Isomalt

## HUMECTANTS

Humectants keep food moist and stop it from drying out.

325	Sodium lactate
326	Potassium lactate
350	Sodium malates
420	Sorbitol or sorbitol syrup
421	Mannitol
422	Glycerin or glycerol
914	Oxidised polyethylene
965	Maltitol and Maltitol syrup or Hydrogenated glucose syrup
966	Lactitol
967	Xylitol
968	Erythritol
1200	Polydextrose
1518	Triacetin
1520	Propylene glycol

## RAISING AGENTS

Raising agents are used in bakery products to make them rise.

500	Sodium carbonate or Sodium bicarbonate
503	Ammonium bicarbonate or Ammonium hydrogen carbonate
575	Glucono delta-lactone
920	L-cysteine monohydrochloride

## FIRMING AGENTS

Firming agents contribute to firmness of food or interact with gelling agents to produce or strengthen a gel.

509*	Calcium chloride
511*	Magnesium chloride
516*	Calcium sulphate
518*	Magnesium sulphate
526	Calcium hydroxide
578*	Calcium gluconate
580*	Magnesium gluconate

## FOAMING AGENTS

Foaming agents maintain the uniform dispersion of gases in aerated food.

465	Methyl ethyl cellulose
570	Stearic acid or fatty acid

## FLAVOUR ENHANCERS

Flavour enhancers improve the existing flavour and/or taste of food.

620	L-glutamic acid
621	Monosodium L-glutamate or MSG
622	Monopotassium L-glutamate
623	Calcium glutamate
624	Monoammonium L-glutamate
625	Magnesium glutamate
627	Disodium 5' -guanylate
631	Disodium 5' -inosinate
635	Disodium 5' -ribonucleotides
636	Maltol
637	Ethyl maltol
640	Glycine
641	L-Leucine
957	Thaumatococcus

\* Denotes additives that can also be added to a food as a vitamin or mineral, where the Food Standards Code permits. See section on vitamins and minerals page 3.

## GLAZING AGENTS

Glazing agents help protect a food and make it look shiny.

570	Stearic acid or fatty acid
901	Beeswax, white and yellow
903	Carnauba wax
904	Shellac
905b	Petrolatum or Petroleum jelly

## PROPELLANTS

Propellants are sealed under pressure in an aerosol food container. This enables an aerosol can to spray out its contents, eg, cream in a can with a nozzle.

Note: Propellants should be listed on the label by name (eg, carbon dioxide) rather than using the class name propellant followed by the code number.

290	Carbon dioxide
941	Nitrogen
942	Nitrous oxide
943a	Butane
943b	Isobutane
944	Propane
946	Octafluorocyclobutane

## BULKING AGENTS

Bulking agents contribute to the volume of a food without contributing significantly to its available energy.

325	Sodium lactate
326	Potassium lactate
953	Isomalt
1200	Polydextrose

## ENZYMES

Enzymes describe a group of substances that may have diverse functions. For example lipases assist in cheesemaking where milk is broken down into curds and whey. Others can act as a stabiliser, or preservative.

1100	alpha-Amylase
1101	Proteases (papain, bromelain, ficin)
1104	Lipases
1105	Lysozyme

## SWEETENERS

Sweeteners replace the sweetness normally provided by sugars in foods. Some are intense sweeteners and do not contribute significantly to the available energy of foods.

420	Sorbitol or sorbitol syrup
421	Mannitol
950	Acesulphame potassium
951	Aspartame
952	Cyclamate or Calcium cyclamate or Sodium cyclamate
953	Isomalt
954	Saccharin
955	Sucralose
956	Alitame
957	Thaumatin
960	Steviol glycosides
961	Neotame
962	Aspartame - acesulphame salt
965	Maltitol and Maltitol syrup or Hydrogenated glucose syrup
966	Lactitol
967	Xylitol
968	Erythritol

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## ANTIFOAMING AGENTS

Antifoaming agents stop or reduce foaming.

1505	Triethyl citrate
1521	Polyethylene glycol 8000

## MISCELLANEOUS ADDITIVES

Some additives cannot be classified by one of the classes listed.

519*	Cupric sulphate (mineral salt)
577	Potassium gluconate (sequestrant)
579*	Ferrous gluconate (colour retention agent)

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[www.nzfsa.govt.nz](http://www.nzfsa.govt.nz)

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**FOOD SAFETY CONCERNS**

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