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GUERNSEY STATUTORY INSTRUMENT

1976 No. 37

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The Food and Drugs (Emulsifiers and Stabilisers in Food) Order, 1976

Made ... 27th May, 1976. . . .

Laid before the States ...

Coming into operation ... 27th May, 1976.

ARRANGEMENT OF SECTIONS

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- Schedule 2 Emulsifiers and stabilisers permitted only in certain foods.
- Schedule 3 Labelling of permitted emulsifiers and permitted stabilisers.

THE STATES BOARD OF HEALTH, in exercise of the powers conferred upon it by sections four, seven, and forty-seven of the Food and Drugs (Guernsey) Law, 1970 (a) as amended (b) and of all other powers enabling it in that behalf, hereby orders-

Citation and commencement

1. This Order may be cited as the Emulsifiers and Stabilisers in Food Order, 1976, and shall come into force on the twenty-seventh day of May, nineteen hundred and seventy-six.

Interpretation

- 2.-(1) In this Order unless the context otherwise requires-

"appropriate designation" means, as respects any permitted emulsifier or permitted stabiliser, a name or description or a name and description sufficiently specific, in each case, to indicate to an intending purchaser the true nature of the permitted emulsifier or permitted stabiliser to which it is applied;

"bread" has the meaning assigned to it by the Colouring Matter in Food Order, 1976 (c);

"the Board" means the States of Guernsey Board of Health;

"cheese spread", "processed cheese", "soft cheese" and "whey cheese" have the meanings respectively assigned to them by the Colouring Matter in Food Order, 1976;

"emulsifier" and "stabiliser" mean respectively any substance which is capable-

- (a) in the case of an emulsifier, of aiding the formation of, and
- (b) in the case of a stabiliser, of maintaining,

the uniform dispersion of two or more immiscible substances, but do not in either case include-

- (i) any natural food substance,
- (ii) any permitted antioxidant,
- (iii) any permitted artificial sweetener,
- (iv) any permitted bleaching agent,
- (v) any permitted colouring matter,
- (vi) any permitted improving agent,
- (vii) any permitted miscellaneous additive,
- (viii) any permitted preservative,
- (ix) any permitted solvent,
- (x) caseins and caseinates,
- (xi) proteins, protein concentrates and protein hydrolysates,
- (xii) starches, whether modified or not,
- (xiii) normal straight chain fatty acids derived from food fats;

"flour" has the meaning assigned to it by the Colouring Matter in Food Order, 1976;

"food" means food intended for sale for human consumption and includes drink, chewing gum and other products of a like nature and use, and articles and substances used as ingredients in the preparation of food or drink or of such products, but does not include-

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- (a) Ordres en Conseil Vol XXII, p. 412
 - (b) Ordre en Conseil No XIV of 1975
 - (c) S.I. 1976 No. 34

- (a) water, live animals or birds,
- (b) fodder or feeding stuffs for animals, birds or fish, or
- (c) articles or substances used only as drugs;

"Food Chemicals Codex 1972" and "First Supplement, 1974" mean respectively the second edition of the Food Chemicals Codex published in 1972 and the First Supplement to that edition published in 1974, in each case, by the National Academy of Sciences, Washington DC, United States of America;

"human consumption" includes use in the preparation of food for human consumption;

"the Island" includes the Islands of Guernsey, Alderney, Herm and Jethou;

"the Law" means the Food and Drugs (Guernsey) Law, 1970;

"natural food substance" means any substance, suitable for use as food and commonly used as food, which is wholly a natural product, whether or not that substance has been subjected to any process or treatment, and includes malt extract and glucose syrup but does not include edible gums;

"permitted antioxidant" means any antioxidant in so far as its use is permitted by the Antioxidant in Food Order, 1976 (d);

"permitted artificial sweetener" has the meaning assigned to it by the Miscellaneous Additives in Food Order, 1976 (e);

"permitted bleaching agent" has the meaning assigned to it by the Miscellaneous Additives in Food Order, 1976;

"permitted colouring matter" means any colouring matter in so far as its use is permitted by the Colouring Matter in Food Order, 1976;

"permitted emulsifier" and "permitted stabiliser" mean respectively any emulsifier and any stabiliser specified in Part I of Schedule 1 which complies with the specific purity criteria in relation to that emulsifier or stabiliser specified or referred to in Part II of that Schedule and, so far as is not otherwise provided in any such specific purity criteria, with the general purity criteria in Part III of that Schedule, or any mixture of two or more such emulsifiers or stabilisers or emulsifiers and stabilisers;

"permitted improving agent" means any improving agent in so far as its use is permitted by the Miscellaneous Additives in Food Order, 1976;

"permitted miscellaneous additive" means any acid, anti-caking agent, anti-foaming agent, base, buffer, firming agent, glazing agent, humectant, liquid freezant, packaging gas, propellant, release agent or sequestrant in so far as its use is, in each case, permitted by the Miscellaneous Additives in Food Order, 1976;

"permitted preservative" means any preservative in so far as its use is permitted by the Preservatives in Food Order, 1976 (f);

"permitted solvent" has the meaning assigned to it by the Miscellaneous Additives in Food Order, 1976;

"sell" includes offer or expose for sale or have in possession for sale, and "sale" and "sold" shall be construed accordingly;

(d) S.I. 1976 No. 35

(e) S.I. 1976 No. 36

(f) S.I. 1976 No. 33

"soft drink" has the meaning assigned to it by the Preservatives in Food Order, 1976;

"specified food" means any food of a description specified in column 1 of Part I or Part II of Schedule 2;

and other expressions have the same meaning as in the Law.

- (2) The Interpretation (Guernsey) Law, 1946 (g) shall apply to the interpretation of this Order as it applies to the interpretation of a Guernsey enactment.
- (3) Unless a contrary intention is expressed, all proportions mentioned in this Order are proportions calculated by weight of the product as sold.
- (4) Any reference in this Order to a label borne on a container shall be construed as including a reference to any legible marking on the container however effected.
- (5) For the purposes of this Order, the supply of food, otherwise than by sale, at, in or from any place where food is supplied in the course of a business shall be deemed to be a sale of that food.
- (6) Except in so far as the context otherwise requires, any reference in this Order to any enactment or order shall be construed as a reference to that enactment or order as amended, repealed and replaced, extended or applied by or under any other enactment or order including this Order.
- (7) Any reference in this Order to a numbered Schedule shall, unless the reference is to a Schedule to a specified order, be construed as a reference to the Schedule bearing that number in this Order.

Exemptions

3. The provisions of this Order shall not apply to food having any emulsifier or stabiliser in it or on it or to any emulsifier or stabiliser which, in each case, is intended at the time of sale, consignment, delivery or importation, as the case may be, for exportation to any place outside the Bailiwick of Guernsey.

Sale, etc. of food containing emulsifiers or stabilisers

4.-(1) Subject to the provisions of this section, no food sold, consigned or delivered or imported into the Island shall have in it or on it any added emulsifier or added stabiliser other than a permitted emulsifier or permitted stabiliser.

(2) Save as hereinafter provided, no food sold, consigned or delivered or imported into the Island shall have in it or on it any added permitted emulsifier or added permitted stabiliser specified in column 2 of Part I of Schedule 2:

Provided that any specified food described in column 1 of that Part of that Schedule may have in it or on it any permitted emulsifier or permitted stabiliser of the description and in the proportion specified in relation thereto in columns 2 and 3 respectively of that Part of that Schedule.

(3) Save as hereinafter provided, no specified food described in column 1 of Part II of Schedule 2, sold, consigned or delivered or imported into the Island shall have in it or on it any added permitted emulsifier or added permitted stabiliser:

Provided that any specified food described in column 1 of Part II of Schedule 2 may, subject to the provisions of paragraph 1 of that Part, have in it or on it any permitted emulsifier or permitted stabiliser of the description and in the proportion specified in relation thereto in columns 2 and 3 respectively of that Part of that Schedule.

(4) Nothing in the two preceding subsections shall prohibit the presence in or on any food, which has in it or on it any specified food, of any permitted emulsifier or permitted stabiliser of the description specified for, and in the amount appropriate to the quantity of, that specified food in accordance with the two preceding subsections:

Provided that where, by reason of the use of a tin-greasing emulsion in its preparation, any food has present in it or on it-

(a) the permitted emulsifier oxidatively polymerised soya bean oil, that permitted emulsifier shall be present in a proportion not exceeding 50 milligrams per kilogram;

(b) the permitted emulsifier polyglycerol esters of dimerised fatty acids of soya bean oil, that permitted emulsifier shall be present in a proportion not exceeding 20 milligrams per kilogram.

(5) Nothing in subsection (3) of this section shall prohibit the presence in or on any bread, by reason of the use of a tin-greasing emulsion in its preparation, of any permitted emulsifier or permitted stabiliser not specified in the proviso to the preceding subsection or in column 2 of item (a) of Part II of Schedule 2 in a proportion not exceeding 50 milligrams per kilogram.

(6) No flour, intended for sale as such, shall contain any emulsifier or stabiliser.

(7) No person shall sell, consign or deliver or import into the Island any food which does not comply with this section.

Sale, advertisement and labelling of emulsifiers and stabilisers

5.--(1) No person shall sell, consign or deliver, import into the Island or advertise for sale any emulsifier or stabiliser (including any emulsifier or stabiliser with which any other substance has been mixed) for use as an ingredient in the preparation of food unless such emulsifier or stabiliser is a permitted emulsifier or permitted stabiliser.

(2) No person shall sell, consign or deliver any permitted emulsifier or any permitted stabiliser (including any such permitted emulsifier or permitted stabiliser with which any other substance has been mixed) for use as an ingredient in the preparation of food except in a container bearing a label which complies with the requirements of Schedule 3.

6. No person shall-

(a) give with any permitted emulsifier or permitted stabiliser sold by him for use as an ingredient in the preparation of food any label, whether attached to or borne on the container or not, or display with any permitted emulsifier or permitted stabiliser offered or exposed by him for sale for such use any ticket or notice, or

(b) publish, or be a party to the publication of, any advertisement of any permitted emulsifier or permitted stabiliser for sale for use as an ingredient in the preparation of food,

which bears or includes any words, device or description calculated to indicate either directly or indirectly that that emulsifier or stabiliser is a substitute for fat or eggs.

Condemnation of food

7. Where any food is certified by the States Analyst as being food which it is an offence against section 4 of this Order to sell, consign or deliver or import into the Island, that food may be treated for the purposes of section 9 of the Law (under which food may be seized and destroyed on the order of the Magistrate's Court) as being unfit for human consumption.

Penalties

8. If any person contravenes or fails to comply with any of the foregoing provisions of this Order he shall be guilty of an offence and shall be liable to a fine not exceeding one hundred pounds or to imprisonment for a term not exceeding three months, or to both, and, in the case of a continuing offence, to a further fine not exceeding five pounds for each day during which the offence continues after conviction.

Defences

9.-(1) In any proceedings for an offence against this Order in relation to the publication of an advertisement, it shall be a defence for the defendant to prove that, being a person whose business it is to publish or arrange for the publication of advertisements, he received the advertisement for publication in the ordinary course of business.

(2) In any proceedings against the manufacturer or importer of any emulsifier or stabiliser for use as an ingredient in the preparation of food, or of any food having added emulsifier or added stabiliser in it or on it, for an offence against this Order in relation to the publication of an advertisement, it shall rest on the defendant to prove that he did not publish, and was not a party to the publication of, the advertisement.

Application of various sections of the Law

10. Subsections (2) and (3) of section thirty-seven (which relate to prosecutions), section thirty-eight (which relates to evidence of analysis), section forty (which relates to a contravention due to some person other than the person charged), subsection(2) of section forty-one (which relates to the conditions under which a warranty may be pleaded as a defence) and section forty-two (which relates to offences in relation to warranties and certificates of analysis) of the Law shall apply for the purposes of this Order as if references therein to proceedings, or a prosecution, under or taken or brought under the Law included references to proceedings, or a prosecution as the case may be, taken or brought for an offence under this Order.

Extent

11. This Order shall have effect in the Islands of Guernsey, Alderney, Herm and Jethou.

Dated this Twenty seventh day of May , nineteen hundred and seventy-six



President of the States Board of Health
for and on behalf of the Board.

SCHEDULE 1

Section 2(1)

PART I

PERMITTED EMULSIFIERS AND PERMITTED STABILISERS

Column 1	Column 2
Name of Emulsifier or Stabiliser	Serial Number
Lecithins	E 322
Ammonium phosphatides	—
Alginate	E 400
Sodium alginate	E 401
Potassium alginate	E 402
Ammonium alginate	E 403
Calcium alginate	E 404
Propane-1,2-diol alginate	E 405
Agar	E 406
Carrageenan	E 407
Furcellaran	E 408
Locust bean gum	E 410
Guar gum	E 412
Tragacanth	E 413
Acacia	E 414
Pectins	E 440
Ghatti gum	—
Karaya gum	—
Xanthan gum	—
Microcrystalline cellulose	E 460
Methylcellulose	E 461
Ethylcellulose	E 462
Hydroxypropylcellulose	E 463
Hydroxypropylmethylcellulose	E 464
Ethylmethylcellulose	E 465
Carboxymethylcellulose, sodium salt	E 466
Sodium, potassium and calcium salts of fatty acids	E 470
Mono- and di-glycerides of fatty acids	E 471
Acetic acid esters of mono- and di-glycerides of fatty acids	E 472(a)
Lactic acid esters of mono- and di-glycerides of fatty acids	E 472(b)
Citric acid esters of mono- and di-glycerides of fatty acids	E 472(c)
Diacetyltartaric acid esters of mono- and di-glycerides of fatty acids	E 472(e)
Sucrose esters of fatty acids	E 473
Sucroglycerides	E 474
Polyglycerol esters of fatty acids	E 475
Polyglycerol esters of polycondensed fatty acids of castor oil	—
Polyglycerol esters of dimerised fatty acids of soya bean oil	—
Oxidatively polymerised soya bean oil	—
Propane-1,2-diol esters of fatty acids	E 477
Lactylated fatty acid esters of glycerol and propane-1,2-diol	—
Sodium stearyl-2-lactylate	E 481
Calcium stearyl-2-lactylate	E 482
Stearyl tartrate	E 483
Polyoxyethylene (8) stearate	—
Polyoxyethylene (40) stearate	—
Polyoxyethylene (20) sorbitan monostearate	—
Polyoxyethylene (20) sorbitan tristearate	—
Polyoxyethylene (20) sorbitan monopalmitate	—

Column 1	Column 2
Name of Emulsifier or Stabiliser	Serial Number
Polyoxyethylene (20) sorbitan monolaurate	---
Polyoxyethylene (20) sorbitan mono-oleate	---
Sorbitan monostearate	---
Sorbitan tristearate	---
Sorbitan monopalmitate	---
Sorbitan monolaurate	---
Sorbitan mono-oleate	---
Diocetyl sodium sulphosuccinate	---
Extract of Quillaia	---

PART II

SPECIFIC PURITY CRITERIA FOR PERMITTED EMULSIFIERS AND PERMITTED STABILISERS

E 322 Lecithins

The criteria in the monograph for lecithin contained in the Food Chemicals Codex 1972 at page 444 except that the description shall be amended by substituting for the first sentence the words "Food-grade lecithin is generally obtained from soybeans but may also be obtained from other vegetable or animal matter" and by deleting from lines 10 and 21 the word "soy" and from line 13 the word "soybean".

Ammonium phosphatides

Description	Ammonium phosphatides exist as an unctuous semi-solid (at 25°C.). They consist essentially of a mixture of the ammonium salts of phosphatidic acids derived from partially hardened rapeseed oil together with unreacted partially hardened rapeseed oil.
Matter insoluble in petroleum ether (40°C.-60°C.)	Total: Not more than 2.5 per centum. Inorganic matter: Not more than 0.2 per centum.
pH of an aqueous extract of melted ammonium phosphatides	Not less than 6.0 and not more than 8.0.
Phosphorus	Not less than 3.0 per centum and not more than 3.4 per centum.
Ammonium nitrogen	Not less than 1.2 per centum and not more than 1.5 per centum.
Arsenic	Not more than 5 mg. per kg.

E 400 Alginic acid

The criteria in the monograph for alginic acid contained in the Food Chemicals Codex 1972 at page 26 as amended by the First Supplement, 1974 at page 1.

E 401 Sodium alginate

The criteria in the monograph for sodium alginate contained in the Food Chemicals Codex 1972 at page 721 as amended by the First Supplement, 1974 at page 50.

E 402 Potassium alginate

The criteria in the monograph for potassium alginate contained in the Food Chemicals Codex 1972 at page 641 as amended by the First Supplement, 1974 at page 46.

E 403 Ammonium alginate

The criteria in the monograph for ammonium alginate contained in the Food Chemicals Codex 1972 at page 43 as amended by the First Supplement, 1974 at page 3.

E 404 Calcium alginate

The criteria in the monograph for calcium alginate contained in the Food Chemicals Codex 1972 at page 117 as amended by the First Supplement, 1974 at page 9.

E 405 Propane-1,2-diol alginate

Synonym Propylene glycol alginate.

The criteria in the monograph for propylene glycol alginate contained in the Food Chemicals Codex 1972 at page 680 as amended by the First Supplement, 1974 at page 48, except that in the assay method the heating period shall be 3 hours.

E 406 Agar

The criteria in the monograph for agar contained in the Food Chemicals Codex 1972 at page 22.

E 407 Carrageenan

Synonym Carrageen.

The criteria in the monograph for carrageenan contained in the Food Chemicals Codex 1972 at page 172 as amended by the First Supplement, 1974 at page 13 with the additional requirement that the product shall not be hydrolysed or otherwise chemically degraded.

E 408 Furcellaran

Description	Furcellaran is an off-white powder which consists essentially of the potassium salts of polysaccharide sulphate esters. It is obtained by precipitating with potassium chloride an aqueous extract of the red seaweed, <i>Furcellaria fastigiata</i> (often with admixtures of <i>Chondrus crispus</i>). On hydrolysis furcellaran yields galactose and anhydrogalactose. Some potassium chloride remains associated with the furcellaran and aids gelling properties.
Solubility	Insoluble in cold water and in ethanol. Soluble in hot water.
Identification	As given in the Nutrition Meetings Report Series No. 46B 1970 of the United Nations' Food and Agriculture Organization at pages 42 and 53.
Moisture	Not more than 13 per centum (Karl Fischer).
Ash	Total: Not more than 30 per centum on a moisture-free basis. Acid insoluble: Not more than 0.25 per centum on a moisture-free basis (using approximately 2N HCl).
Sulphate (as SO ₄)	Not more than 18 per centum on a moisture-free basis.
Potassium chloride	Not more than 20 per centum.

E 410 Locust bean gum

Synonym Carob gum.

The criteria in the monograph for locust bean gum contained in the Food Chemicals Codex 1972 at page 464 as amended by the First Supplement, 1974 at page 37.

E 412 Guar gum

Synonym Guar flour.

The criteria in the monograph for guar gum contained in the Food Chemicals Codex 1972 at page 361 as amended by the First Supplement, 1974 at page 32.

E 413 Tragacanth

The criteria in the monograph for tragacanth contained in the Food Chemicals Codex 1972 at page 832.

E 414 Acacia

Synonym Gum arabic.

The criteria in the monograph for acacia contained in the Food Chemicals Codex 1972 at page 9.

E 440 Pectins

Description

Pectins consist chiefly of the partial methyl esters of polygalacturonic acid and their ammonium, sodium, potassium or calcium salts and include low methoxyl and amide pectins. For the purposes of these regulations the term pectins also covers pectic acid (polygalacturonic acid) and its ammonium, sodium and potassium salts.

Pectins are obtained by extraction from citrus fruit, apples or sugar beet.

(a) Liquid pectin is the concentrated solution obtained by concentrating the dilute acid extract of citrus fruit, apples or sugar beet and may contain other plant constituents derived from the source material.

(b) Powdered pectin is a white, light yellow, light grey or light brown powder usually standardised with sucrose or glucose.

Identification

For pectic acid (neutralised to a pH greater than 5) and powdered pectin only: Soluble, forming a colloidal, opalescent solution in water. Insoluble in ethanol.

For powdered pectin only: Heat 1 g. pectin with 9 ml. water on a steam bath until a solution is formed, replacing water lost by evaporation. On cooling the solution becomes viscous or yields a gel or does both.

To a 1 per centum (weight/weight) aqueous solution of pectin, or to liquid pectin, add an equal volume of ethanol. A translucent, gelatinous precipitate is formed.

	To 10 ml. of a 1 per centum (weight/weight) aqueous solution of pectin, or to 10 ml. liquid pectin, add 1 ml. of 10 per centum (weight/weight) aqueous thorium nitrate solution, stir and allow to stand for 2 minutes. A stable precipitate or gel forms.																
	To 5 ml. of a 1 per centum (weight/weight) aqueous solution of pectin, or to 5 ml. liquid pectin, add 1 ml. of 2N aqueous sodium hydroxide solution and allow to stand at room temperature for 15 minutes. A gel or semi-gel forms.																
	Acidify the gel from the preceding test with dilute hydrochloric acid (approximately 10 per centum HCl) and shake well. A voluminous, colourless, gelatinous precipitate forms, which upon boiling becomes white and flocculent (pectic acid).																
Volatile matter	For powdered pectin only: Not more than 12 per centum (determined by drying at 105°C. for 2 hours).																
Ash insoluble in dilute hydrochloric acid (10 per centum HCl)	Not more than 1 per centum.																
Amide substitution of total carboxyl groups	Not more than 25 per centum.																
Total methyl, ethyl and isopropyl alcohol	Not more than 1 per centum.																
Copper	For liquid pectin: Not more than 20 mg. per kg. For powdered pectin: Not more than 60 mg. per kg.																
Zinc	Not more than 25 mg. per kg.																
<i>Ghatti gum</i>																	
Description	Ghatti gum is an off-white to buff powder. It is a complex high molecular weight polysaccharide derived from the gum exuded from the stem of the tree <i>Acageissus latifolia</i> . On acid hydrolysis the gum yields L-arabinose, D-galactose, D-mannose, D-xylose and D-glucuronic acid.																
Solubility	Completely soluble in five parts of water forming a very viscous mucilage. Insoluble in ethanol.																
Identification	Precipitates from ghatti gum solutions are characterised as follows: <table border="0" style="margin-left: 20px;"> <thead> <tr> <th style="text-align: left;"><i>Reagent</i></th> <th style="text-align: left;"><i>Precipitate</i></th> </tr> </thead> <tbody> <tr> <td>Ethanol (90 per centum aqueous solution)</td> <td>Fine, flocculent, non-adherent</td> </tr> <tr> <td>Tannic acid (10 per centum aqueous solution)</td> <td>Precipitate (distinction from Acacia)</td> </tr> <tr> <td>Lead acetate (20 per centum aqueous solution)</td> <td>None (distinction from Amrad and other gums)</td> </tr> <tr> <td>Lead subacetate solution (Basic lead acetate)</td> <td>Translucent, flocculent</td> </tr> <tr> <td>Potassium hydroxide (10 per centum aqueous solution)</td> <td>None</td> </tr> <tr> <td>Ferric chloride (5 per centum aqueous solution)</td> <td>None (absence of tannin)</td> </tr> <tr> <td>Sodium tetraborate (4 per centum aqueous solution)</td> <td>None</td> </tr> </tbody> </table>	<i>Reagent</i>	<i>Precipitate</i>	Ethanol (90 per centum aqueous solution)	Fine, flocculent, non-adherent	Tannic acid (10 per centum aqueous solution)	Precipitate (distinction from Acacia)	Lead acetate (20 per centum aqueous solution)	None (distinction from Amrad and other gums)	Lead subacetate solution (Basic lead acetate)	Translucent, flocculent	Potassium hydroxide (10 per centum aqueous solution)	None	Ferric chloride (5 per centum aqueous solution)	None (absence of tannin)	Sodium tetraborate (4 per centum aqueous solution)	None
<i>Reagent</i>	<i>Precipitate</i>																
Ethanol (90 per centum aqueous solution)	Fine, flocculent, non-adherent																
Tannic acid (10 per centum aqueous solution)	Precipitate (distinction from Acacia)																
Lead acetate (20 per centum aqueous solution)	None (distinction from Amrad and other gums)																
Lead subacetate solution (Basic lead acetate)	Translucent, flocculent																
Potassium hydroxide (10 per centum aqueous solution)	None																
Ferric chloride (5 per centum aqueous solution)	None (absence of tannin)																
Sodium tetraborate (4 per centum aqueous solution)	None																

Moisture Not more than 14 per centum (Karl Fischer).
Ash Total: Not more than 3 per centum on a moisture-free basis.
Acid insoluble: Not more than 0.35 per centum on a moisture-free basis (using approximately 2N HCl).
Starch or dextrins Addition of a few drops of iodine solution to an aqueous solution of ghatti gum shall not produce a blue or reddish colouration.

Karaya gum

Synonym Sterculia gum.

The criteria in the monograph for karaya gum contained in the Food Chemicals Codex 1972 at page 423.

Xanthan gum

The criteria in the monograph for xanthan gum contained in the Food Chemicals Codex 1972 at page 856 with the additional requirements that viable cells of *Xanthomonas campestris* shall be absent and that the nitrogen content shall be not more than 1.5 per centum.

E 460 Microcrystalline cellulose

The criteria in the monograph for microcrystalline cellulose contained in the British Pharmaceutical Codex 1973 at page 84 with the additional requirement that matter extractable by diethyl ether shall be not more than 200 mg. per kg.

E 461 Methylcellulose

The criteria in the monograph for methylcellulose contained in the Food Chemicals Codex 1972 at page 516.

E 462 Ethylcellulose

The criteria in the monograph for ethylcellulose contained in the Food Chemicals Codex 1972 at page 284.

E 463 Hydroxypropylcellulose

The criteria in the monograph for hydroxypropyl cellulose contained in the Food Chemicals Codex 1972 at page 385 as amended by the First Supplement, 1974 at page 35.

E 464 Hydroxypropylmethylcellulose

The criteria in the monograph for hydroxypropyl methylcellulose contained in the Food Chemicals Codex 1972 at page 387 as amended by the First Supplement, 1974 at page 35.

E 465 Ethylmethylcellulose

Synonym Methyl ethylcellulose.

The criteria in the monograph for methyl ethylcellulose contained in the Food Chemicals Codex 1972 at page 522.

E 466 Carboxymethylcellulose, sodium salt

Synonym Sodium carboxymethylcellulose.

The criteria in the monograph for sodium carboxymethylcellulose contained in the Food Chemicals Codex 1972 at page 731 except that the assay shall be not less than 99.0 per centum of sodium carboxymethylcellulose calculated on a dried basis.

E 470 Sodium, potassium and calcium salts of fatty acids

Description The sodium, potassium and calcium salts of fatty acids occur as white or creamy white to yellow solids or semi-solids. They are obtained by interaction of the hydroxides or carbonates of sodium, potassium or calcium, or mixtures thereof, with edible fats or oils or with food-grade distilled fatty acids. Water or glycerol, or a mixture thereof, may be present.

Total fatty matter Not less than 55 per centum.

Unsaponified matter Not more than 0.8 per centum of the total fatty matter content.

Free alkali (expressed as NaOH) Not more than 0.1 per centum.

Resin Not detectable (determined according to the method for resin in the monograph for soft soap in the British Pharmacopoeia 1973 at page 419).

Matter insoluble in ethanol (sodium salts and potassium salts only) Not more than 0.1 per centum.

Acid value Not more than 2 mg. KOH per g.

E 471 Mono- and di-glycerides of fatty acids

The criteria in the monograph for mono- and diglycerides contained in the Food Chemicals Codex 1972 at page 538.

E 472(a) Acetic acid esters of mono- and di-glycerides of fatty acids

Synonym Acetylated mono- and di-glycerides.

The criteria in the monograph for acetylated monoglycerides contained in the Food Chemicals Codex 1972 at page 19 with the additional requirement that the total acetic acid content (free and combined) shall be not more than 32 per centum.

E 472(b) Lactic acid esters of mono- and di-glycerides of fatty acids

Synonyms Lactylated mono- and di-glycerides.
Lactoglycerides.

The criteria in the monograph for lactated mono-diglycerides contained in the Food Chemicals Codex 1972 at page 427 with the additional requirements that the total fatty acid ester content shall be not less than 95 per centum, that the total lactic acid content (free and combined) shall be not more than 33 per centum and that the acid value of the free fatty acids shall be not more than 6 mg. KOH per g.

E 472(c) Citric acid esters of mono- and di-glycerides of fatty acids

Synonym Citroglycerides.

Description Citric acid esters of mono- and di-glycerides of fatty acids are yellowish or light brown liquids, waxy solids or

semi-solids. They consist essentially of mixed esters of glycerol with citric acid and fatty acids derived from food fats. Acids (other than citric and fatty acids) and polyols (other than glycerol) are absent.

Solubility	Soluble in most common fat solvents. Insoluble, or only soluble with difficulty, in water and in alcohols.
Total fatty acid ester	Not less than 95 per centum.
Total citric acid (free and combined)	Not more than 25 per centum.
Ash	Not more than 0.2 per centum.
Acid value	Total; Not more than 125 mg. KOH per g. Free fatty acids: Not more than 6 mg. KOH per g.

E 472(e) Diacetyltartaric acid esters of mono- and di-glycerides of fatty acids

Synonym Diacetyltartaric acid esters of mono- and di-glycerides.

The criteria in the monograph for diacetyl tartaric acid esters of mono- and diglycerides contained in the Food Chemicals Codex 1972 at page 239 except that for the requirements in respect of fatty acids total, assay for tartaric acid, acetic acid and saponification value there shall be substituted the requirements that the total fatty acid content after saponification shall be not less than 35 per centum, that the total tartaric acid content (free and combined) shall be not more than 30 per centum, that the total acetic acid content (free and combined) shall be not more than 25 per centum and that the saponification value shall be not less than 360 and not more than 550.

E 473 Sucrose esters of fatty acids

E 474 Sucroglycerides

In each case the criteria in the monograph for sucrose esters of fatty acids contained in the Nutrition Meetings Report Series No. 46B (1970) of the United Nations' Food and Agriculture Organization at page 66 with the additional requirements that the total sucrose fatty acid ester content shall be not less than 90 per centum, that the total methanol content (free and combined) shall be not more than 10 mg. per kg. and that the acid value shall be not more than 6 mg. KOH per g.

E 475 Polyglycerol esters of fatty acids

Description	Polyglycerol esters of fatty acids are yellow or light brown liquids or semi-solids. They are produced by the esterification of polyglycerol with food fats or fatty acids derived from food fats. The polyglycerol moiety is predominantly di-, tri- and tetra-glycerol and contains not more than 10 per centum of polyglycerols equal to or higher than heptaglycerol. The fatty acids moiety consists of straight-chain fatty acids with a hydroxyl value not exceeding 2.
Total fatty acid ester	Not less than 90 per centum.
Acid value	Not more than 12 mg. KOH per g.

Polyglycerol esters of polycondensed fatty acids of castor oil

Description	The polyglycerol esters of polycondensed fatty acids of castor oil exist as a highly viscous liquid (at 25°C.). They are essentially a complex mixture of the partial esters and ethers of polyglycerol with linearly interesterified (polycondensed) fatty acids derived from castor oil. The polycondensed castor oil fatty acids are prepared by condensation in the absence of oxygen and have an average of about 5 fatty acid residues per molecule. The polyglycerol moiety is predominantly di-, tri- and tetra-glycerol and contains not more than 10 per centum of polyglycerols equal to or higher than heptaglycerol.
Refractive index, $n_D^{65^\circ\text{C}}$	Not less than 1.4630 and not more than 1.4665.
Hydroxyl value	Not less than 80 and not more than 100.
Iodine value	Not less than 72 and not more than 103 (Wijs).
Acid value	Not more than 6 mg. KOH per g.

Polyglycerol esters of dimerised fatty acids of soya bean oil

Description	Polyglycerol esters of dimerised fatty acids of soya bean oil exist as a viscous oil obtained by the interesterification of polyglycerol with refined soya bean oil thermally polymerised in vacuo. The polyglycerol moiety is predominantly di-, tri- and tetra-glycerol and contains not more than 10 per centum of polyglycerols equal to or higher than heptaglycerol.
Urea non-adduct content of total fatty acid methyl esters	Not more than 65 per centum.
Saponification value	Not less than 158 and not more than 175.
Iodine value	Not less than 78 and not more than 82 (Wijs).
Hydroxyl value	Not less than 60 and not more than 70.
Acid value	Not more than 6 mg. KOH per g.

Oxidatively polymerised soya bean oil

Description	Oxidatively polymerised soya bean oil is a highly viscous liquid (at 25°C.). It is obtained by blowing air into edible soya bean oil at a temperature not exceeding 250°C.
Combined oxidised fatty acids	Not more than 30 per centum.
Urea non-adduct content of total fatty acid methyl esters	Not more than 42 per centum.
Refractive index, $n_D^{40^\circ\text{C}}$	Not less than 1.475 and not more than 1.485.
Saponification value	Not more than 220.
Iodine value	Not less than 75 and not more than 85 (Wijs).
Hydroxyl value	Not less than 30 and not more than 70.
Acid value	Not more than 6 mg. KOH per g.

E 477 Propane-1,2-diol esters of fatty acids

Synonym	Propylene glycol esters of fatty acids.
Description	Propane-1,2-diol esters of fatty acids exist as waxy, white flakes or beads or as a waxy white solid. They consist chiefly of mixtures of propane-1,2-diol mono- and diesters of straight-chain fatty acids (with a hydroxyl value not exceeding 2) derived from food fats. The alcohol moiety is exclusively propane-1,2-diol together with dimer and traces of trimer. Organic acids other than fatty acids are absent.
Total fatty acid ester	Not less than 90 per centum.
Dimer and trimer of propane-1,2-diol	Not more than 4 per centum.
Free propane-1,2-diol	Not more than 5 per centum.
Acid value	Not more than 12 mg. KOH per g.

Lactylated fatty acid esters of glycerol and propane-1,2-diol

Description	Lactylated fatty acid esters of glycerol and propane-1,2-diol occur as off-white to light caramel coloured flakes obtained by reacting hardened vegetable oils or hardened animal fats (iodine values less than 2) firstly with propane-1,2-diol and then with lactic acid.
Combined glycerol	Not more than 6 per centum.
Combined propane-1,2-diol	Not more than 14 per centum.
Combined lactic acid	Not more than 18 per centum.
Saponification value	Not less than 230 and not more than 250.
Matter soluble in water	Not more than 5 per centum.
Acid value	Not more than 12 mg. KOH per g.

E 481 Sodium stearoyl-2-lactylate

Description	Sodium stearoyl-2-lactylate is a cream-coloured powder. It consists of a mixture of the sodium salts of stearoyl lactic acids and minor amounts of other sodium salts of related acids manufactured by the reaction of commercial food-grade stearic acid and lactic acid.
Solubility	Soluble in hot oil or fat. Dispersible in warm water.
Identification	As given in the monograph for sodium stearoyl-2-lactylate contained in the Food Chemicals Codex 1972 at page 770.
Sodium	Not more than 5 per centum.
Ester value	Not less than 150 and not more than 190.
Total lactic acid (free and combined)	Not more than 40 per centum.
Acid value	Not more than 90 mg. KOH per g.

E 482 Calcium stearoyl-2-lactylate

The criteria in the monograph for calcium stearoyl-2-lactylate contained in the Food Chemicals Codex 1972 at page 160 except that the final sentence of the description (requirement to conform to the regulations of the federal Food and Drug Administration pertaining to specifications for fats or fatty acids derived from edible sources) shall be deleted and that for the requirements in respect of acid value, calcium content,

ester value and total lactic acid there shall be substituted the requirements that the acid value shall be not more than 130 mg. KOH per g., that the calcium content shall be not more than 5.2 per centum, that the ester value shall be not less than 125 and not more than 190 and that the total lactic acid content (free and combined) shall be not more than 40 per centum.

E 483 Stearyl tartrate

Description	Stearyl tartrate is a cream-coloured unctuous solid (m.p. 25°C.) produced by the esterification of tartaric acid with commercial food-grade stearyl alcohol. It consists chiefly of the di-ester with minor amounts of mono-ester, tartaric acid and stearyl alcohol.
Total ester	Not less than 90 per centum.
Unsaponifiable matter	Not less than 77 per centum and not more than 83 per centum.
Melting range	67°C. to 77°C.
Ester value	Not less than 163 and not more than 180.
Iodine value	Not more than 4 (Wijs).
Acid value	Not more than 6 mg. KOH per g.

Polyoxyethylene (8) stearate

The criteria in the monograph for polyoxyethylene (8) stearate contained in the Nutrition Meetings Report Series No. 35 (1964) of the United Nations' Food and Agriculture Organization at page 118.

Polyoxyethylene (40) stearate

The criteria in the monograph for polyoxyethylene (40) stearate contained in the Nutrition Meetings Report Series No. 35 (1964) of the United Nations' Food and Agriculture Organization at page 127.

Polyoxyethylene (20) sorbitan monostearate

Synonym Polysorbate 60.

The criteria in the monograph for polysorbate 60 contained in the Food Chemicals Codex 1972 at page 634 except that the final sentence of the description (requirement to conform to the regulations of the federal Food and Drug Administration pertaining to specifications for fats or fatty acids derived from edible sources) shall be deleted.

Polyoxyethylene (20) sorbitan tristearate

Synonym Polysorbate 65.

The criteria in the monograph for polysorbate 65 contained in the Food Chemicals Codex 1972 at page 635 except that the final sentence of the description (requirement to conform to the regulations of the federal Food and Drug Administration pertaining to specifications for fats or fatty acids derived from edible sources) shall be deleted.

Polyoxyethylene (20) sorbitan monopalmitate

Synonym Polysorbate 40.

The criteria in the monograph for polyoxyethylene (20) sorbitan monopalmitate contained in the Nutrition Meetings Report Series No. 35 (1964) of the United Nations' Food and Agriculture Organization at page 135.

Polyoxyethylene (20) sorbitan monolaurate

Synonym Polysorbate 20.

The criteria in the monograph for polysorbate 20 contained in the Food Chemicals Codex 1972 at page 632.

Polyoxyethylene (20) sorbitan mono-oleate

Synonym Polysorbate 80.

The criteria in the monograph for polysorbate 80 contained in the Food Chemicals Codex 1972 at page 637 except that the final sentence of the description (requirement to conform to the regulations of the federal Food and Drug Administration pertaining to specifications for fats or fatty acids derived from edible sources) shall be deleted.

Sorbitan monostearate

The criteria in the monograph for sorbitan monostearate contained in the Food Chemicals Codex 1972 at page 784 except that the final sentence of the description (requirement to conform to the regulations of the federal Food and Drug Administration pertaining to specifications for fats or fatty acids derived from edible sources) shall be deleted.

Sorbitan tristearate

The criteria in the monograph for sorbitan tristearate contained in the Nutrition Meetings Report Series No. 35 (1964) of the United Nations' Food and Agriculture Organization at page 108.

Sorbitan monopalmitate

The criteria in the monograph for sorbitan monopalmitate contained in the Nutrition Meetings Report Series No. 35 (1964) of the United Nations' Food and Agriculture Organization at page 102.

Sorbitan monolaurate

The criteria in the monograph for sorbitan monolaurate contained in the British Pharmaceutical Codex 1973 at page 465.

Sorbitan mono-oleate

The criteria in the monograph for sorbitan mono-oleate contained in the British Pharmaceutical Codex 1973 at page 466.

Diethyl sodium sulphosuccinate

The criteria in the monograph for diethyl sodium sulphosuccinate contained in the Food Chemicals Codex 1972 at page 256 as amended by the First Supplement, 1974 at page 16 except that the requirement for residue on ignition shall be calculated on a dry matter basis and that for the method of assay there shall be substituted the method of V. W. Reid, G. F. Longman and E. Heinerth contained in Tenside, Zeitschrift für Physik, Chemie und Anwerdung Grenzflächenaktiver Stoffe, published by Carl Hanser, Munich, Federal Republic of Germany, 1967, volume 4, part 9 at page 302.

Extract of Quillaia

The aqueous extract of the product complying with the monograph for Quillaia or for powdered Quillaia, in each case, contained in the British Pharmacopoeia 1973 at page 406.

PART III

GENERAL PURITY CRITERIA APPLICABLE TO PERMITTED EMULSIFIERS AND
PERMITTED STABILISERS EXCEPT WHERE OTHERWISE PROVIDED BY
SPECIFIC PURITY CRITERIA

Each emulsifier and stabiliser shall not contain—

- (a) more than 3 milligrams per kilogram of arsenic;
- (b) more than 10 milligrams per kilogram of lead;
- (c) more than 50 milligrams per kilogram of copper, or 25 milligrams per kilogram of zinc, or 50 milligrams per kilogram of any combination of copper and zinc.

SCHEDULE 2

Section 4

PART I

EMULSIFIERS AND STABILISERS PERMITTED ONLY IN CERTAIN FOOD

Column 1	Column 2	Column 3
Specified food	Permitted emulsifier or permitted stabiliser	Milligrams per kilogram Not exceeding—
(a) Soft drinks	Extract of Quillaia	200 (of the dry matter content of the extract)
(b) Dutch type rusks	Sodium, potassium and calcium salts of fatty acids	15,000 (calculated as sodium oleate, $C_{18}H_{33}NaO_2$, and on the weight of the flour)
(c) The permitted emulsifiers or permitted stabilisers:— Mono- and di-glycerides of fatty acids; lactic acid esters of mono- and di-glycerides of fatty acids; sucrose esters of fatty acids; sucroglycerides; polyglycerol esters of fatty acids; propane-1,2-diol esters of fatty acids	Sodium, potassium and calcium salts of fatty acids	60,000 (calculated as sodium oleate, $C_{18}H_{33}NaO_2$)
(d) Tin-greasing emulsions	Oxidatively polymerised soya bean oil Polyglycerol esters of dimerised fatty acids of soya bean oil	In accordance with good manufacturing practice

PART II

FOODS IN WHICH THE USE OF PERMITTED EMULSIFIERS AND
PERMITTED STABILISERS IS LIMITED

Column 1	Column 2	Column 3
Specified food	Permitted emulsifier or permitted stabiliser	Milligrams per kilogram Not exceeding—
(a) Bread	Lecithins Mono- and di-glycerides of fatty acids Lactic acid esters of mono- and di-glycerides of fatty acids Citric acid esters of mono- and di-glycerides of fatty acids Diacetyltartaric acid esters of mono- and di-glycerides of fatty acids Stearyl tartrate Sodium stearoyl-2-lactylate Calcium stearoyl-2-lactylate	In accordance with good manufacturing practice 5,000
(b) Soft cheese, whey cheese, processed cheese, cheese spread	Lecithins Alginate Sodium alginate Calcium alginate Carrageenan Locust bean gum Tragacanth Acacia Ghatti gum Karaya gum Xanthan gum	In accordance with good manufacturing practice

1. The permitted emulsifiers or permitted stabilisers mono- and di-glycerides of fatty acids, lactic acid esters of mono- and di-glycerides of fatty acids, citric acid esters of mono- and di-glycerides of fatty acids and diacetyltartaric acid esters of mono- and di-glycerides of fatty acids shall, when used in bread, have a hydroxyl value of the free and combined fatty acids not exceeding 2.

SCHEDULE 3

Section 5(2)

LABELLING OF PERMITTED EMULSIFIERS AND PERMITTED STABILISERS

1.—(1) Each container to which section 5(2) of this Order relates shall bear a label on which is printed a true statement,—

- (a) in respect of each permitted emulsifier or permitted stabiliser present, of the serial number, if any, as specified in relation thereto in column 2 of Part I of Schedule 1, and of the common or usual name or an appropriate designation of that permitted emulsifier or permitted stabiliser; and

EXPLANATORY NOTE

(This Note is not part of the Order)

The Order ---

- (a) specifies permitted emulsifiers and permitted stabilisers and prescribes purity criteria for those emulsifiers and stabilisers (section 2 and Schedule 1);
- (b) prohibits the sale or importation of food having in or on it any added emulsifier or stabiliser other than a permitted emulsifier or permitted stabiliser and, subject to prescribed limits, confines the use of particular permitted emulsifiers or permitted stabilisers to specified foods and restricts other specified foods to containing only particular permitted emulsifiers or permitted stabilisers (section 4(1), (2), (3) and (7) and Schedule 2);
- (c) subject to prescribed limits for oxidatively polymerised soya bean oil and polyglycerol esters of dimerised fatty acids of soya bean oil in or on food by reason of the use of a tin-greasing emulsion in its preparation, permits food, having in or on it any specified food described in Schedule 2, to have in or on it any permitted emulsifier or permitted stabiliser of the description specified for, and in the amount appropriate to the quantity of, that specified food (section 4(4));
- (d) subject to a prescribed limit, permits bread, by reason of the use of any tin-greasing emulsion in its preparation, to have in or on it any permitted emulsifier or permitted stabiliser not specified in the proviso to section 4(4) or in column 2 of item (a) of Part II of Schedule 2 (section 4(5));
- (e) prohibits the use of any emulsifier or stabiliser in flour intended for sale as such (section 4(6) and (7));
- (f) prohibits the importation, sale or advertisement for sale, for use as an ingredient in the preparation of food, of any emulsifier or stabiliser other than a permitted emulsifier or permitted stabiliser (section 5(1));
- (g) prescribes labelling requirements for permitted emulsifiers and permitted stabilisers sold as such (section 5(2) and Schedule 3);
- (h) prohibits the labelling or advertisement of any permitted emulsifier or permitted stabiliser for sale for use as an ingredient in the preparation of food with any words, device or description calculated to indicate that the emulsifier or stabiliser is a substitute for fat or eggs (section 6)

The Order does not apply to any emulsifier or stabiliser or to any food having in or on it any emulsifier or stabiliser, which is sold, consigned, delivered or imported for export (section 3).

(b) where any other substance or substances is or are present,-

- (i) of the common or usual name or an appropriate designation of each such substance, and
- (ii) of the proportion of each such substance in respect of which any order, other than this Order, made under the Law contain a requirement to that effect.

(2) The said statement shall be headed or preceded by the words "for foodstuffs (restricted use)".

2. Any statement required by the preceding paragraph-

- (a) shall be clear and legible;
- (b) shall be in a conspicuous position on the label which shall be marked on, or securely attached to, the container in such a manner that it will be readily discernible and easily read by an intending purchaser under normal conditions of purchase;
- (c) shall not be in any way hidden or obscured or reduced in conspicuousness by any other matter, whether pictorial or not, appearing on the label.

3. The figures and letters in every word in any statement to which the preceding paragraph applies-

- (a) shall be in characters of uniform colour and size (being not less than 1.5 millimetres in height for a label on a container of which the greatest dimension does not exceed 12 centimetres and not less than 3 millimetres in height for a label on a container of which the greatest dimension exceeds 12 centimetres), but so that the initial letter of any word may be taller than any other letter in the word;
- (b) shall appear on a contrasting ground, so however that where there is no ground other than such as is provided by a transparent container and the contents of that container are visible behind the letters, those contents shall be taken to be the ground for the purposes of this paragraph;
- (c) shall be within a surrounding line and no other written or pictorial matter shall appear within that line.

4. For the purposes of this Schedule-

- (a) the height of any lower case letter shall be taken to be the x height thereof, disregarding any ascender or descender thereof;
- (b) any requirement that figures or letters shall be of uniform height, colour or size, shall be construed as being subject to the saving that any inconsiderable variation in height, colour or size, as the case may be, may be disregarded.